```
7. (\frac{1}{2} \text{ point}) What is printed?
        POINTS
                                                                 x = 4
  Full Name
                                                                 def f(x):
                                                                   return x + x
  Section & Subsection
                                                                 y = f(3)
  Roll#
                                                                 z = f(y)
                                                                 print(x, y, z)
1. (\frac{1}{2} \text{ point}) What is printed?
                                                                 A. Error B. 12 6 12 C. 4 6 12 D. 4 8 8
  x = [1]
  def f(x):
                                                              8. (1 point) What is printed?
     return x + x
                                                                 y = 3
  y = f([3])
                                                                 def f(x):
  z = f(y)
                                                                   global y
  print(x, y, z)
                                                                   def g(y):
  A. [1] [3, 3] [3, 3, 3, 3]
                                                  B. Error
                                                                     nonlocal x
  C. [1] [3, 3] [3, 3] D. [3, 3, 3, 3] [3, 3, 3, 3]
                                                                      return y + x
                                                                   return g(x) + y
2. (1 point) Write
                         down
                                       the
                                                   sequence
                                                                 print(f(4))
  enumerate(map(succ, range(10))), where succ is the
  function that returns n+1 given n?
                                                                 A. 10 B. 11 C. 9 D. 9
3. (\frac{1}{2} point) What is printed?
                                                              9. (\frac{1}{2} \text{ point}) What is printed?
  x = 3
                                                                 x = 3
  def f(y):
                                                                 def f(y):
     global x
                                                                   global x
     x = x + y
                                                                   x = x + y
  for y in range (1, 10):
                                                                 xs = map(f, range(1, 10))
     f(y)
                                                                 print(x)
  print(x)
                                                                 A. 48 B. 4 C. 3 D. 5
  A. 3 B. 4 C. 18 D. 48
                                                             10. (\frac{1}{2} \text{ point}) What is printed?
4. (\frac{1}{2} \text{ point}) What is printed?
                                                                 x = 3
  x = [1]
                                                                 def f(y):
  def f(x):
                                                                   global x
     x.append(x.copy())
                                                                   x = x + y
     return x
                                                                 for x in range(1, 10):
  y = f([3])
                                                                   f(x)
  z = f(y)
                                                                 print(x)
  print(x, y, z)
                                                                 A. 48 B. 3 C. 18 D. 4
  A. [1] [3, 3] [3, 3, 3, 3]
                                                  B. Error
  C. [1] [3, [3], [3, [3]]] [3, [3], [3, [3]]]
  D. [1] [3, [3]] [3, [3], [3, [3]]]
5. (2 points) The programmer at SmallBucket wanted to apply
  a discount of 10\% to all items in the shopping list before
  displaying the final list and total price. The shopping_list
  is a list of tuples where the first element is the name and the
  second one the price. Identify the error. Fix the code.
  def discount(item):
       name, price = item
```

return (name, price * 0.9)

error, what is the error? Explain your reasoning.

y = 0
def f(x):
 if x > 0:
 y = y + x
 return y
print(f(-3))

discounted = map(discount, shopping_list)
print("Your list is", list(discounted))
print("Total Payable:", sum(discounted))

6. (1 point) Will something get printed or an error occur when you run the following code? If no error, what gets printed? If

```
POINTS
  Full Name
  Section & Subsection
  Roll#
1. (1 point) Write
                        down
                                      the
                                                 sequence
  enumerate(map(succ, range(10))), where succ is the
  function that returns n+1 given n?
2. (\frac{1}{2} \text{ point}) What is printed?
  x = [1]
  def f(x):
     x.append(x.copy())
     return x
  y = f([3])
  z = f(y)
  print(x, y, z)
  A. [1] [3, 3] [3, 3, 3, 3] B. [1] [3, [3]] [3, [3], [3, [3]]]
  C. [1] [3, [3], [3, [3]]] [3, [3], [3, [3]]]
  D. Error
3. (1 point) What is printed?
  def f(x):
     global y
     def g(y):
       nonlocal x
       return y + x
     return g(x) + y
  print(f(4))
  A. 9 B. 10 C. 11 D. 9
4. (2 points) The programmer at SmallBucket wanted to apply
  a discount of 10% to all items in the shopping list before
  displaying the final list and total price. The shopping_list
  is a list of tuples where the first element is the name and the
  second one the price. Identify the error. Fix the code.
  def discount(item):
       name, price = item
       return (name, price * 0.9)
  discounted = map(discount, shopping_list)
  print("Your list is", list(discounted))
  print("Total Payable:", sum(discounted))
5. (\frac{1}{2} point) What is printed?
  x = 3
  def f(y):
     global x
     x = x + y
  for x in range(1, 10):
     f(x)
  print(x)
  A. 4 B. 18 C. 3 D. 48
6. (\frac{1}{2} point) What is printed?
  x = 3
  def f(y):
     global x
     x = x + y
```

xs = map(f, range(1, 10))

print(x)

```
A. 48 B. 5 C. 3 D. 4
7. (\frac{1}{2} \text{ point}) What is printed?
   x = 3
   def f(y):
      global x
      x = x + y
   for y in range(1, 10):
      f(y)
   print(x)
   A. 3 B. 48 C. 4 D. 18
8. (\frac{1}{2} point) What is printed?
   x = 4
   def f(x):
      return x + x
   y = f(3)
   z = f(y)
   print(x, y, z)
   A. 12 6 12 B. Error C. 4 8 8 D. 4 6 12
9. (1 point) Will something get printed or an error occur when
   you run the following code? If no error, what gets printed? If
   error, what is the error? Explain your reasoning.
   v = 0
   def f(x):
      if x > 0:
        y = y + x
      return y
   print(f(-3))
10. (\frac{1}{2} point) What is printed?
   x = [1]
   def f(x):
      return x + x
   y = f([3])
   z = f(y)
   print(x, y, z)
   A. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3]
   B. [1] [3, 3] [3, 3, 3, 3]
                                                    C. Error
   D. [1] [3, 3] [3, 3]
```

```
POINTS
  Full Name
  Section & Subsection
  Roll #
1. (1 point) Write
                        down
                                      the
                                                 sequence
  enumerate(map(succ, range(10))), where succ is the
  function that returns n+1 given n?
2. (\frac{1}{2} \text{ point}) What is printed?
  x = 3
  def f(y):
     global x
     x = x + y
  xs = map(f, range(1, 10))
  print(x)
  A. 4 B. 5 C. 48 D. 3
3. (\frac{1}{2} point) What is printed?
  x = 3
  def f(y):
     global x
     x = x + y
  for y in range (1, 10):
     f(y)
  print(x)
  A. 3 B. 48 C. 18 D. 4
4. (2 points) The programmer at SmallBucket wanted to apply
  a discount of 10% to all items in the shopping list before
  displaying the final list and total price. The shopping_list
  is a list of tuples where the first element is the name and the
  second one the price. Identify the error. Fix the code.
  def discount(item):
       name, price = item
       return (name, price * 0.9)
  discounted = map(discount, shopping_list)
  print("Your list is", list(discounted))
  print("Total Payable:", sum(discounted))
5. (1 point) What is printed?
  y = 3
  def f(x):
     global y
     def g(y):
       nonlocal x
       return y + x
     return g(x) + y
  print(f(4))
  A. 11 B. 9 C. 9 D. 10
6. (\frac{1}{2} point) What is printed?
  x = 3
  def f(y):
     global x
     x = x + y
  for x in range(1, 10):
     f(x)
  print(x)
  A. 4 B. 48 C. 3 D. 18
```

```
7. (\frac{1}{2} \text{ point}) What is printed?
    x = [1]
    def f(x):
      x.append(x.copy())
      return x
    y = f([3])
    z = f(y)
    print(x, y, z)
                                                    B. Error
    A. [1] [3, 3] [3, 3, 3, 3]
    C. [1] [3, [3]] [3, [3], [3, [3]]]
   D. [1] [3, [3], [3, [3]]] [3, [3], [3, [3]]]
 8. (\frac{1}{2} \text{ point}) What is printed?
    x = 4
    def f(x):
      return x + x
    y = f(3)
    z = f(y)
    print(x, y, z)
    A. 488 B. 4612 C. 12612 D. Error
 9. (\frac{1}{2} \text{ point}) What is printed?
    x = [1]
    def f(x):
      return x + x
    y = f([3])
    z = f(y)
    print(x, y, z)
    A. [1] [3, 3] [3, 3, 3, 3]
                                       B. [1] [3, 3] [3, 3]
    C. Error D. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3]
10. (1 point) Will something get printed or an error occur when
    you run the following code? If no error, what gets printed? If
    error, what is the error? Explain your reasoning.
    y = 0
    def f(x):
      if x > 0:
        y = y + x
      return y
    print(f(-3))
```

D 8 POINTS

Full Name

Section & Subsection

Roll#

1. (1 point) Write down the sequence enumerate(map(succ, range(10))), where succ is the function that returns n+1 given n?

2. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = 4
def f(x):
    return x + x
y = f(3)
z = f(y)
print(x, y, z)
```

A. 488 B. 4612 C. 12612 D. Error

3. $(\frac{1}{2}$ point) What is printed?

x = [1]

```
def f(x):
    return x + x
y = f([3])
z = f(y)
print(x, y, z)

A. Error
    B. [1] [3, 3] [3, 3, 3, 3]
C. [1] [3, 3] [3, 3, 3, 3, 3]
```

4. (1 point) What is printed?

```
y = 3
def f(x):
    global y
    def g(y):
        nonlocal x
        return y + x
    return g(x) + y
print(f(4))
```

A. 9 B. 11 C. 9 D. 10

5. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = 3
def f(y):
    global x
    x = x + y
for y in range(1, 10):
    f(y)
print(x)
```

A. 18 B. 3 C. 48 D. 4

6. $(\frac{1}{2}$ point) What is printed?

```
x = 3
def f(y):
    global x
    x = x + y
for x in range(1, 10):
    f(x)
print(x)
```

A. 48 B. 4 C. 3 D. 18

7. (1 point) Will something get printed or an error occur when you run the following code? If no error, what gets printed? If error, what is the error? Explain your reasoning.

```
y = 0
def f(x):
   if x > 0:
      y = y + x
   return y
print(f(-3))
```

8. (2 points) The programmer at SmallBucket wanted to apply a discount of 10% to all items in the shopping list before displaying the final list and total price. The shopping_list is a list of tuples where the first element is the name and the second one the price. Identify the error. Fix the code.

```
def discount(item):
    name, price = item
    return (name, price * 0.9)
discounted = map(discount, shopping_list)
print("Your list is", list(discounted))
print("Total Payable:", sum(discounted))
```

9. $(\frac{1}{2}$ point) What is printed?

```
x = [1]
def f(x):
    x.append(x.copy())
    return x
y = f([3])
z = f(y)
print(x, y, z)
```

A. [1] [3, [3], [3, [3]]] [3, [3], [3, [3]]] B. [1] [3, [3]] [3, [3], [3, [3]]] C. [1] [3, 3] [3, 3, 3, 3] D. Error

10. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = 3
def f(y):
    global x
    x = x + y
xs = map(f, range(1, 10))
print(x)
```

A. 3 B. 4 C. 48 D. 5

```
x = 3
        POINTS
                                                                def f(y):
                                                                  global x
  Full Name
                                                                  x = x + y
  Section & Subsection
                                                                for y in range(1, 10):
                                                                  f(y)
  Roll#
                                                                print(x)
1. (\frac{1}{2} point) What is printed?
                                                                A. 3 B. 48 C. 18 D. 4
  x = 3
                                                             7. (1 point) Write
                                                                                       down
                                                                                                    the
                                                                                                               sequence
  def f(y):
                                                                enumerate(map(succ, range(10))),
                                                                                                    where succ is the
     global x
                                                                function that returns n+1 given n?
     x = x + y
  for x in range(1, 10):
                                                             8. (\frac{1}{2} \text{ point}) What is printed?
     f(x)
                                                                x = [1]
  print(x)
                                                                def f(x):
  A. 3 B. 4 C. 18 D. 48
                                                                  return x + x
                                                                y = f([3])
2. (\frac{1}{2} \text{ point}) What is printed?
                                                                z = f(y)
                                                                print(x, y, z)
  x = 4
  def f(x):
                                                                A. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3]
     return x + x
                                                                B. [1] [3, 3] [3, 3]
                                                                                                               C. Error
  y = f(3)
                                                                D. [1] [3, 3] [3, 3, 3, 3]
  z = f(y)
  print(x, y, z)
                                                             9. (1 point) Will something get printed or an error occur when
                                                                you run the following code? If no error, what gets printed? If
  A. 12 6 12 B. Error C. 4 6 12 D. 4 8 8
                                                                error, what is the error? Explain your reasoning.
3. (2 points) The programmer at SmallBucket wanted to apply
                                                                y = 0
                                                                def f(x):
  a discount of 10% to all items in the shopping list before
  displaying the final list and total price. The shopping_list
                                                                  if x > 0:
  is a list of tuples where the first element is the name and the
                                                                     y = y + x
  second one the price. Identify the error. Fix the code.
                                                                  return y
                                                                print(f(-3))
  def discount(item):
       name, price = item
                                                            10. (\frac{1}{2} \text{ point}) What is printed?
       return (name, price * 0.9)
  discounted = map(discount, shopping_list)
                                                                x = 3
  print("Your list is", list(discounted))
                                                                def f(y):
  print("Total Payable:", sum(discounted))
                                                                  global x
                                                                  x = x + y
                                                                xs = map(f, range(1, 10))
4. (\frac{1}{2} point) What is printed?
                                                                print(x)
  x = [1]
  def f(x):
                                                                A. 3 B. 5 C. 48 D. 4
     x.append(x.copy())
     return x
  y = f([3])
  z = f(y)
  print(x, y, z)
  A. [1] [3, 3] [3, 3, 3, 3] B. [1] [3, [3], [3, [3]]] [3, [3], [3, [3]]]
  C. [1] [3, [3]] [3, [3], [3, [3]]] D. Error
5. (1 point) What is printed?
  y = 3
  def f(x):
     global y
     def g(y):
       nonlocal x
       return y + x
     return g(x) + y
  print(f(4))
  A. 11 B. 9 C. 10 D. 9
6. (\frac{1}{2} \text{ point}) What is printed?
```

POINTS

Full Name

Section & Subsection

Roll#

1. ($\frac{1}{2}$ point) What is printed?

```
x = 3
def f(y):
  global x
  x = x + y
for x in range(1, 10):
  f(x)
print(x)
```

A. 18 B. 3 C. 48 D. 4

2. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = [1]
def f(x):
  x.append(x.copy())
  return x
y = f([3])
z = f(y)
print(x, y, z)
```

A. [1] [3, 3] [3, 3, 3, 3] B. [1] [3, [3], [3, [3]]] [3, [3]; [3]; [3], [3], [3]C. Error D. [1] [3, [3]] [3, [3], [3, [3]]]

3. (1 point) What is printed?

```
y = 3
def f(x):
  global y
  def g(y):
    {\tt nonlocal}\ {\tt x}
    return y + x
  return g(x) + y
print(f(4))
```

A. 9 B. 10 C. 11 D. 9

4. ($\frac{1}{2}$ point) What is printed?

```
x = 3
def f(y):
  global x
  x = x + y
for y in range(1, 10):
  f(y)
print(x)
```

A. 3 B. 48 C. 4 D. 18

5. (2 points) The programmer at SmallBucket wanted to apply a discount of 10% to all items in the shopping list before displaying the final list and total price. The shopping list is a list of tuples where the first element is the name and the second one the price. Identify the error. Fix the code.

```
def discount(item):
    name, price = item
    return (name, price * 0.9)
discounted = map(discount, shopping_list)
print("Your list is", list(discounted))
print("Total Payable:", sum(discounted))
```

6. (1 point) Will something get printed or an error occur when you run the following code? If no error, what gets printed? If error, what is the error? Explain your reasoning.

```
v = 0
def f(x):
  if x > 0:
    y = y + x
  return y
print(f(-3))
```

7. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = [1]
def f(x):
  return x + x
y = f([3])
z = f(y)
print(x, y, z)
```

A. [1] [3, 3] [3, 3] B. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3]

C. Error D. [1] [3, 3] [3, 3, 3, 3]

8. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = 4
def f(x):
  return x + x
y = f(3)
z = f(y)
```

A. 4 6 12 B. 4 8 8 C. Error D. 12 6 12

9. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = 3
def f(y):
  global x
  x = x + y
xs = map(f, range(1, 10))
print(x)
```

A. 5 B. 4 C. 48 D. 3

10. (1 point) Write down the sequence enumerate(map(succ, range(10))), where succ is the function that returns n+1 given n?

```
POINTS
  Full Name
  Section & Subsection
  Roll#
1. (\frac{1}{2} \text{ point}) What is printed?
  def f(y):
     global x
     x = x + y
   for x in range(1, 10):
     f(x)
  print(x)
  A. 18 B. 3 C. 48 D. 4
2. (1 point) Write
                         down
                                       the
  function that returns n+1 given n?
3. (1 point) What is printed?
  y = 3
  def f(x):
     global y
     def g(y):
       nonlocal x
       return y + x
     return g(x) + y
  print(f(4))
  A. 9 B. 10 C. 9 D. 11
4. (\frac{1}{2} \text{ point}) What is printed?
  x = 3
  def f(y):
     global x
     x = x + y
  xs = map(f, range(1, 10))
  print(x)
  A. 4 B. 5 C. 48 D. 3
5. (\frac{1}{2} point) What is printed?
  x = 4
   def f(x):
     return x + x
  y = f(3)
  z = f(y)
  print(x, y, z)
  A. Error B. 12 6 12 C. 4 8 8 D. 4 6 12
6. (\frac{1}{2} \text{ point}) What is printed?
  x = 3
  def f(y):
```

```
def f(x):
                                                                x.append(x.copy())
                                                                return x
                                                              y = f([3])
                                                              z = f(y)
                                                              print(x, y, z)
                                                sequence
  enumerate(map(succ, range(10))), where succ is the
                                                              def discount(item):
                                                                  name, price = item
                                                                  return (name, price * 0.9)
                                                          10. (\frac{1}{2} point) What is printed?
                                                              x = [1]
                                                              def f(x):
                                                                return x + x
                                                              y = f([3])
                                                              z = f(y)
                                                              print(x, y, z)
                                                              A. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3]
     global x
    x = x + y
  for y in range (1, 10):
     f(y)
  print(x)
  A. 4 B. 48 C. 18 D. 3
7. (1 point) Will something get printed or an error occur when
  you run the following code? If no error, what gets printed? If
  error, what is the error? Explain your reasoning.
```

```
y = 0
  def f(x):
     if x > 0:
       y = y + x
     return y
  print(f(-3))
8. (\frac{1}{2} \text{ point}) What is printed?
  x = [1]
  A. Error B. [1] [3, [3], [3, [3]]] [3, [3], [3, [3]]]
  C. [1] [3, 3] [3, 3, 3, 3] D. [1] [3, [3]] [3, [3], [3,
9. (2 points) The programmer at SmallBucket wanted to apply
  a discount of 10% to all items in the shopping list before
  displaying the final list and total price. The shopping_list
  is a list of tuples where the first element is the name and the
  second one the price. Identify the error. Fix the code.
  discounted = map(discount, shopping_list)
  print("Your list is", list(discounted))
  print("Total Payable:", sum(discounted))
                                                  B. Error
  C. [1] [3, 3] [3, 3, 3, 3] D. [1] [3, 3] [3, 3]
```

```
H 8 POINTS
```

Full Name

Section & Subsection

Roll #

1. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = [1]
def f(x):
   return x + x
y = f([3])
z = f(y)
print(x, y, z)
```

A. [1] [3, 3] [3, 3, 3, 3] C. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3]

D. [1] [3, 3] [3, 3]

2. (1 point) What is printed?

```
y = 3
def f(x):
    global y
    def g(y):
        nonlocal x
        return y + x
    return g(x) + y
print(f(4))
```

A. 10 B. 9 C. 9 D. 11

3. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = 4
def f(x):
   return x + x
y = f(3)
z = f(y)
print(x, y, z)
```

A. 12 6 12 B. Error C. 4 6 12 D. 4 8 8

4. (2 points) The programmer at SmallBucket wanted to apply a discount of 10% to all items in the shopping list before displaying the final list and total price. The shopping_list is a list of tuples where the first element is the name and the second one the price. Identify the error. Fix the code.

```
def discount(item):
    name, price = item
    return (name, price * 0.9)
discounted = map(discount, shopping_list)
print("Your list is", list(discounted))
print("Total Payable:", sum(discounted))
```

5. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = 3
def f(y):
    global x
    x = x + y
for y in range(1, 10):
    f(y)
print(x)
```

A. 18 B. 48 C. 4 D. 3

```
6. (\frac{1}{2} \text{ point}) What is printed?
```

```
x = [1]
  def f(x):
     x.append(x.copy())
     return x
  y = f([3])
  z = f(y)
  print(x, y, z)
  A. Error
                              B. [1] [3, 3] [3, 3, 3, 3]
  C. [1] [3, [3], [3, [3]]] [3, [3], [3, [3]]]
  D. [1] [3, [3]] [3, [3], [3, [3]]]
7. (1 point) Write
                        down
                                     the
                                                sequence
  enumerate(map(succ, range(10))), where succ is the
```

function that returns n+1 given n?
8. (1 point) Will something get printed or an error occur when you run the following code? If no error, what gets printed? If

error, what is the error? Explain your reasoning.

```
y = 0
def f(x):
   if x > 0:
      y = y + x
   return y
print(f(-3))
```

B. Error

9. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = 3
def f(y):
    global x
    x = x + y
xs = map(f, range(1, 10))
print(x)
```

A. 5 B. 3 C. 48 D. 4

10. ($\frac{1}{2}$ point) What is printed?

```
x = 3
def f(y):
    global x
    x = x + y
for x in range(1, 10):
    f(x)
print(x)
```

A. 48 B. 3 C. 4 D. 18

```
POINTS
  Full Name
  Section & Subsection
  Roll#
1. (1 point) What is printed?
  def f(x):
     global y
     def g(y):
       nonlocal x
       return y + x
     return g(x) + y
  print(f(4))
  A. 9 B. 9 C. 11 D. 10
2. (1 point) Write
                        down
                                      the
                                                 sequence
  enumerate(map(succ, range(10))), where succ is the
  function that returns n+1 given n?
3. (\frac{1}{2} point) What is printed?
  x = [1]
  def f(x):
     x.append(x.copy())
     return x
  y = f([3])
  z = f(y)
  print(x, y, z)
  A. [1] [3, [3]] [3, [3], [3, [3]]]
  B. [1] [3, [3], [3, [3]]] [3, [3], [3, [3]]]
  C. Error D. [1] [3, 3] [3, 3, 3, 3]
4. (2 points) The programmer at SmallBucket wanted to apply
  a discount of 10% to all items in the shopping list before
  displaying the final list and total price. The shopping_list
  is a list of tuples where the first element is the name and the
  second one the price. Identify the error. Fix the code.
  def discount(item):
       name, price = item
       return (name, price * 0.9)
  discounted = map(discount, shopping_list)
  print("Your list is", list(discounted))
  print("Total Payable:", sum(discounted))
5. (\frac{1}{2} point) What is printed?
  x = 3
  def f(y):
     global x
     x = x + y
  for y in range (1, 10):
     f(y)
  print(x)
  A. 18 B. 4 C. 3 D. 48
6. (\frac{1}{2} point) What is printed?
  x = 3
  def f(y):
     global x
```

x = x + y

print(x)

xs = map(f, range(1, 10))

```
A. 3 B. 48 C. 4 D. 5
7. (\frac{1}{2} \text{ point}) What is printed?
   x = [1]
   def f(x):
      return x + x
   y = f([3])
   z = f(y)
   print(x, y, z)
   A. [1] [3, 3] [3, 3]
                                 B. [1] [3, 3] [3, 3, 3, 3]
   C. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3] D. Error
8. (\frac{1}{2} point) What is printed?
   x = 4
   def f(x):
      return x + x
   y = f(3)
   z = f(y)
   print(x, y, z)
   A. 4 6 12 B. 12 6 12 C. Error D. 4 8 8
9. (1 point) Will something get printed or an error occur when
   you run the following code? If no error, what gets printed? If
   error, what is the error? Explain your reasoning.
   v = 0
   def f(x):
      if x > 0:
        y = y + x
      return y
   print(f(-3))
10. (\frac{1}{2} point) What is printed?
   x = 3
   def f(y):
      global x
      x = x + y
   for x in range(1, 10):
      f(x)
   print(x)
   A. 3 B. 48 C. 18 D. 4
```

```
POINTS
  Full Name
  Section & Subsection
  Roll#
1. (\frac{1}{2} point) What is printed?
  def f(y):
     global x
     x = x + y
  for x in range(1, 10):
     f(x)
  print(x)
  A. 3 B. 48 C. 4 D. 18
2. (\frac{1}{2} \text{ point}) What is printed?
  x = 4
  def f(x):
     return x + x
  y = f(3)
  z = f(y)
  print(x, y, z)
  A. Error B. 12 6 12 C. 4 8 8 D. 4 6 12
3. (\frac{1}{2} point) What is printed?
  x = [1]
  def f(x):
     return x + x
  y = f([3])
  z = f(y)
  print(x, y, z)
                      B. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3]
  C. [1] [3, 3] [3, 3] D. [1] [3, 3] [3, 3, 3, 3]
4. (1 point) Write
                         down
                                      the
                                                 sequence
  enumerate(map(succ, range(10))), where succ is the
  function that returns n+1 given n?
5. (1 point) What is printed?
  y = 3
  def f(x):
     global y
     def g(y):
       nonlocal x
       return y + x
     return g(x) + y
  print(f(4))
  A. 9 B. 11 C. 9 D. 10
6. (\frac{1}{2} point) What is printed?
  x = [1]
  def f(x):
     x.append(x.copy())
     return x
  y = f([3])
  z = f(y)
  print(x, y, z)
                               B. [1] [3, 3] [3, 3, 3, 3]
  A. Error
  C. [1] [3, [3]] [3, [3], [3, [3]]]
  D. [1] [3, [3], [3, [3]]] [3, [3], [3, [3]]]
```

```
7. (\frac{1}{2} \text{ point}) What is printed?
   x = 3
   def f(y):
     global x
     x = x + y
   for y in range(1, 10):
     f(y)
   print(x)
  A. 48 B. 3 C. 18 D. 4
8. (\frac{1}{2} \text{ point}) What is printed?
   x = 3
   def f(y):
     global x
     x = x + y
   xs = map(f, range(1, 10))
   print(x)
   A. 3 B. 48 C. 5 D. 4
9. (2 points) The programmer at SmallBucket wanted to apply
  a discount of 10\% to all items in the shopping list before
   displaying the final list and total price. The shopping_list
   is a list of tuples where the first element is the name and the
  second one the price. Identify the error. Fix the code.
   def discount(item):
```

def discount(item):
 name, price = item
 return (name, price * 0.9)
discounted = map(discount, shopping_list)
print("Your list is", list(discounted))
print("Total Payable:", sum(discounted))

10. (1 point) Will something get printed or an error occur when you run the following code? If no error, what gets printed? If error, what is the error? Explain your reasoning.

```
y = 0
def f(x):
   if x > 0:
      y = y + x
   return y
print(f(-3))
```

POINTS

Full Name

print(x)

Section & Subsection

Roll#

1. ($\frac{1}{2}$ point) What is printed?

```
x = 3
def f(y):
  global x
  x = x + y
xs = map(f, range(1, 10))
```

A. 3 B. 4 C. 48 D. 5

2. (2 points) The programmer at SmallBucket wanted to apply a discount of 10% to all items in the shopping list before displaying the final list and total price. The shopping_list is a list of tuples where the first element is the name and the second one the price. Identify the error. Fix the code.

```
def discount(item):
    name, price = item
    return (name, price * 0.9)
discounted = map(discount, shopping_list)
print("Your list is", list(discounted))
print("Total Payable:", sum(discounted))
```

- 3. (1 point) Write down the sequence enumerate(map(succ, range(10))), where succ is the function that returns n+1 given n?
- 4. ($\frac{1}{2}$ point) What is printed?

```
x = 4
def f(x):
  return x + x
y = f(3)
z = f(y)
print(x, y, z)
```

A. 12 6 12 B. 4 8 8 C. Error D. 4 6 12

5. ($\frac{1}{2}$ point) What is printed?

```
x = 3
def f(y):
  global x
  x = x + y
for y in range (1, 10):
  f(y)
print(x)
```

A. 18 B. 48 C. 4 D. 3

6. ($\frac{1}{2}$ point) What is printed? x = 3def f(y): global x x = x + yfor x in range(1, 10): f(x)

A. 3 B. 18 C. 48 D. 4

7. (1 point) What is printed?

print(x)

```
y = 3
def f(x):
  global y
  def g(y):
    nonlocal x
    return y + x
  return g(x) + y
print(f(4))
A. 9 B. 9 C. 10 D. 11
```

8. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = [1]
def f(x):
  return x + x
y = f([3])
z = f(y)
print(x, y, z)
```

B. [1] [3, 3] [3, 3] A. Error C. [1] [3, 3] [3, 3, 3, 3] D. [3, 3, 3, 3] [3, 3] [3, 3,

9. (1 point) Will something get printed or an error occur when you run the following code? If no error, what gets printed? If error, what is the error? Explain your reasoning.

```
y = 0
def f(x):
  if x > 0:
    y = y + x
  return y
print(f(-3))
```

10. ($\frac{1}{2}$ point) What is printed?

```
x = [1]
def f(x):
  x.append(x.copy())
 return x
y = f([3])
z = f(y)
print(x, y, z)
```

A. Error B. [1] [3, [3]] [3, [3], [3, [3]]] C. [1] [3, 3] [3, 3, 3, 3] D. [1] [3, [3], [3, [3]]] [3,

```
POINTS
  Full Name
  Section & Subsection
  Roll#
1. (\frac{1}{2} \text{ point}) What is printed?
  x = [1]
  def f(x):
     return x + x
  y = f([3])
  z = f(y)
  print(x, y, z)
  A. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3]
                                                  B. Error
  C. [1] [3, 3] [3, 3] D. [1] [3, 3] [3, 3, 3, 3]
2. (\frac{1}{2} \text{ point}) What is printed?
  x = 3
  def f(y):
     global x
     x = x + y
   for x in range(1, 10):
     f(x)
  print(x)
  A. 18 B. 3 C. 4 D. 48
3. (\frac{1}{2} point) What is printed?
  x = 3
   def f(y):
     global x
     x = x + y
   for y in range (1, 10):
     f(y)
  print(x)
  A. 4 B. 3 C. 48 D. 18
4. (1 point) Write
                         down
                                       the
                                                   sequence
  enumerate(map(succ, range(10))), where succ is the
  function that returns n+1 given n?
5. (\frac{1}{2} \text{ point}) What is printed?
  x = 4
  def f(x):
     return x + x
  y = f(3)
  z = f(y)
  print(x, y, z)
  A. 12 6 12 B. Error C. 4 8 8 D. 4 6 12
6. (1 point) What is printed?
  y = 3
   def f(x):
     global y
     def g(y):
       nonlocal x
       return y + x
     return g(x) + y
  print(f(4))
  A. 10 B. 9 C. 9 D. 11
7. (\frac{1}{2} \text{ point}) What is printed?
```

```
x = [1]
   def f(x):
      x.append(x.copy())
      return x
   y = f([3])
   z = f(y)
   print(x, y, z)
   A. Error B. [1] [3, [3], [3, [3]]] [3, [3], [3, [3]]]
   C. [1] [3, 3] [3, 3, 3, 3] D. [1] [3, [3]] [3, [3], [3,
8. (\frac{1}{2} \text{ point}) What is printed?
   x = 3
   def f(y):
      global x
      x = x + y
   xs = map(f, range(1, 10))
   print(x)
   A. 5 B. 48 C. 3 D. 4
9. (1 point) Will something get printed or an error occur when
   you run the following code? If no error, what gets printed? If
   error, what is the error? Explain your reasoning.
   y = 0
   def f(x):
      if x > 0:
        y = y + x
      return y
   print(f(-3))
10. (2 points) The programmer at SmallBucket wanted to apply
   a discount of 10% to all items in the shopping list before
   displaying the final list and total price. The shopping_list
   is a list of tuples where the first element is the name and the
   second one the price. Identify the error. Fix the code.
   def discount(item):
        name, price = item
        return (name, price * 0.9)
   discounted = map(discount, shopping_list)
   print("Your list is", list(discounted))
   print("Total Payable:", sum(discounted))
```

```
M 8 POINTS
```

Full Name

Section & Subsection

Roll #

1. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = [1]
def f(x):
   x.append(x.copy())
```

return x y = f([3])

z = f(y)print(x, y, z)

A. [1] [3, 3] [3, 3, 3, 3] B. [1] [3, [3], [3, [3]]] [3, 3 = map(f, range(1, 10)) C. [1] [3, [3]] [3, [3], [3, [3]]] D. Error

2. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = 3
def f(y):
    global x
    x = x + y
for y in range(1, 10):
    f(y)
print(x)
```

A. 18 B. 3 C. 4 D. 48

3. (1 point) What is printed?

```
y = 3
def f(x):
    global y
    def g(y):
        nonlocal x
        return y + x
    return g(x) + y
print(f(4))
```

A. 9 B. 11 C. 9 D. 10

4. (1 point) Will something get printed or an error occur when you run the following code? If no error, what gets printed? If error, what is the error? Explain your reasoning.

```
y = 0
def f(x):
   if x > 0:
      y = y + x
   return y
print(f(-3))
```

5. (2 points) The programmer at SmallBucket wanted to apply a discount of 10% to all items in the shopping list before displaying the final list and total price. The shopping_list is a list of tuples where the first element is the name and the second one the price. Identify the error. Fix the code.

```
def discount(item):
    name, price = item
    return (name, price * 0.9)
discounted = map(discount, shopping_list)
print("Your list is", list(discounted))
print("Total Payable:", sum(discounted))
```

```
6. (\frac{1}{2} \text{ point}) What is printed?
```

```
x = [1]
   def f(x):
     return x + x
   y = f([3])
   z = f(y)
   print(x, y, z)
                                 B. [1] [3, 3] [3, 3, 3, 3]
   A. Error
   C. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3]
  D. [1] [3, 3] [3, 3]
7. (\frac{1}{2} point) What is printed?
   def f(y):
     global x
     x = x + y
   A. 4 B. 3 C. 5 D. 48
8. (\frac{1}{2} \text{ point}) What is printed?
   x = 3
   def f(y):
     global x
     x = x + y
   for x in range(1, 10):
     f(x)
   print(x)
   A. 48 B. 18 C. 4 D. 3
9. (\frac{1}{2} \text{ point}) What is printed?
   x = 4
   def f(x):
     return x + x
```

A. 12 6 12 B. Error C. 4 8 8 D. 4 6 12

y = f(3)

z = f(y)

print(x, y, z)

10. (1 point) Write down the sequence enumerate(map(succ, range(10))), where succ is the function that returns n+1 given n?

N 8 POINTS

Full Name

Section & Subsection

Roll #

1. (1 point) Will something get printed or an error occur when you run the following code? If no error, what gets printed? If error, what is the error? Explain your reasoning.

```
y = 0
def f(x):
   if x > 0:
      y = y + x
   return y
print(f(-3))
```

2. $(\frac{1}{2}$ point) What is printed?

```
x = [1]
def f(x):
    return x + x
y = f([3])
z = f(y)
print(x, y, z)
```

A. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3] B. [1] [3, 3] [3, 3]

D. [1] [3, 3] [3, 3, 3, 3]

3. (1 point) Write down the sequence enumerate(map(succ, range(10))), where succ is the function that returns n+1 given n?

4. $(\frac{1}{2}$ point) What is printed?

```
x = 4
def f(x):
    return x + x
y = f(3)
z = f(y)
print(x, y, z)
```

A. 4 6 12 B. Error C. 4 8 8 D. 12 6 12

5. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = 3
def f(y):
    global x
    x = x + y
for y in range(1, 10):
    f(y)
print(x)
```

A. 18 B. 4 C. 3 D. 48

6. (1 point) What is printed?

```
y = 3
def f(x):
    global y
    def g(y):
        nonlocal x
        return y + x
    return g(x) + y
print(f(4))
```

A. 10 B. 9 C. 9 D. 11

7. (2 points) The programmer at SmallBucket wanted to apply a discount of 10% to all items in the shopping list before displaying the final list and total price. The shopping_list is a list of tuples where the first element is the name and the second one the price. Identify the error. Fix the code.

```
def discount(item):
    name, price = item
    return (name, price * 0.9)
discounted = map(discount, shopping_list)
print("Your list is", list(discounted))
print("Total Payable:", sum(discounted))
```

8. ($\frac{1}{2}$ point) What is printed?

```
x = 3
def f(y):
    global x
    x = x + y
for x in range(1, 10):
    f(x)
print(x)
```

A. 4 B. 18 C. 48 D. 3

9. $(\frac{1}{2} \text{ point})$ What is printed?

```
x = [1]
def f(x):
    x.append(x.copy())
    return x
y = f([3])
z = f(y)
print(x, y, z)
```

C. Error

A. [1] [3, [3], [3, [3]]] [3, [3], [3, [3]]] B. Error C. [1] [3, [3]] [3, [3], [3, [3]]]

D. [1] [3, 3] [3, 3, 3, 3]

10. $(\frac{1}{2}$ point) What is printed?

```
x = 3
def f(y):
    global x
    x = x + y
xs = map(f, range(1, 10))
print(x)
```

A. 48 B. 3 C. 5 D. 4