Full Name _____

Section & Subsection _____

Roll # _____

1. (½ 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. Error
C. [1] [3, 3] [3, 3]   D. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3]

2. (1 point) Write   down   the   sequence
`enumerate(map(succ, range(10)))`, where succ is the
function that returns $n+1$ given n?

3. (½ 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. 4   C. 18   D. 48

4. (½ 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. 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)
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.

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

7. (½ 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 6 12   D. 4 8 8

8. (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. 11   C. 9   D. 9

9. (½ 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. 4   C. 3   D. 5

10. (½ 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. 18   D. 4

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. (½ 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?

```
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. 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. (½ 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. (½ 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. (½ 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. (½ 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.

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

10. (½ 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]

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. (½ 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. (½ 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. (½ 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. (½ 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. Error
C. [1] [3, [3]] [3, [3], [3, [3]]]
D. [1] [3, [3], [3, [3]]] [3, [3], [3, [3]]]

8. (½ point) What is printed?

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

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

9. (½ 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))
```

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

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

A. 4 8 8   B. 4 6 12   C. 12 6 12   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]   D. [3, 3, 3, 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. ($\frac{1}{2}$ 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. ($\frac{1}{2}$ 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

Full Name _____

Section & Subsection _____

Roll # _____

1. (½ 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. 4   C. 18   D. 48

2. (½ 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

3. (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))
```

4. (½ 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. [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. (½ 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

7. (1 point) Write down the sequence enumerate(map(succ, range(10))), where succ is the function that returns $n+1$ given n?

8. (½ 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]   C. Error
D. [1] [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. (½ 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. 5   C. 48   D. 4

Full Name   _____

Section & Subsection   _____

Roll #   _____

1. (½ 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. (½ 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]]]
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):
    nonlocal x
    return y + x
  return g(x) + y
print(f(4))
```

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

4. (½ 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.

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

7. (½ 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. (½ 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. 4 8 8   C. Error   D. 12 6 12

9. (½ 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?

Full Name _____

Section & Subsection _____

Roll # _____

1. (½ 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. (1 point) Write down the sequence `enumerate(map(succ, range(10)))`, where `succ` is 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. (½ 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. (½ 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. (½ 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. 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. (½ 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,

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):
    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. (½ 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, 3, 3] D. [1] [3, 3] [3, 3]

Full Name _____

Section & Subsection _____

Roll # _____

1. (½ 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. Error
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. (½ 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. (½ 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. (½ 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))
```

9. (½ 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. (½ 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

I | 8 POINTS

Full Name _____

Section & Subsection _____

Roll # _____

1. (1 point) What is printed?

```python
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. 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. (½ point) What is printed?

```python
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.

```python
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. (½ point) What is printed?

```python
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. (½ point) What is printed?

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

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

7. (½ point) What is printed?

```python
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. (½ point) What is printed?

```python
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.

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

10. (½ point) What is printed?

```python
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

J | 8 POINTS

Full Name _____

Section & Subsection _____

Roll # _____

1. (½ 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. 4   D. 18

2. (½ 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. (½ 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. [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. (½ 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, [3], [3, [3]]]

7. (½ 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. (½ 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):
    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))
```

Full Name _____

Section & Subsection _____

Roll # _____

1. (½ point) What is printed?

```python
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

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.

```python
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. (½ point) What is printed?

```python
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. (½ point) What is printed?

```python
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. (½ point) What is printed?

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

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

7. (1 point) What is printed?

```python
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. (½ point) What is printed?

```python
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]
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.

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

10. (½ point) What is printed?

```python
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,

Full Name _____

Section & Subsection _____

Roll # _____

1. (½ 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. (½ 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. (½ 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. (½ 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. (½ 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. (½ 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))
```

Full Name　　　＿＿＿＿＿＿＿＿＿

Section & Subsection　　＿＿＿＿＿＿＿＿＿

Roll #　　　＿＿＿＿＿＿＿＿＿

1. (½ 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. [1] [3, [3]] [3, [3]], [3, [3]]]   D. Error

2. (½ 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))
```

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

6. (½ 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. [3, 3, 3, 3] [3, 3] [3, 3, 3, 3]
D. [1] [3, 3] [3, 3]

7. (½ 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. 3   C. 5   D. 48

8. (½ 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. (½ 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

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

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.

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

2. (½ point) What is printed?

```python
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]   C. Error
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. (½ point) What is printed?

```python
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. (½ point) What is printed?

```python
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?

```python
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.

```python
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. (½ point) What is printed?

```python
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. (½ point) What is printed?

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

10. (½ point) What is printed?

```python
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