

EXERCISE 4: DEFINING FUNCTIONS

1. Suppose a function header is as follows:

```
def f(p1, p2, p3, p4):
```

Which of the following calls are correct?

- `f(1, p2 = 3, p3 = 4, p4 = 4)`
 - `f(1, p2 = 3, 4, p4 = 4)`
 - `f(p1 = 1, p2 = 3, 4, p4 = 4)`
 - `f(p1 = 1, p2 = 3, p3 = 4, p4 = 4)`
 - `f(p4 = 1, p2 = 3, p3 = 4, p1 = 4)`
2. What is the printout of the following code?

```
1 def function(x):
2     print(x)
3     x = 4.5
4     y = 3.4
5     print(y)
6
7 x = 2
8 y = 4
9 function(x)
10 print(x)
11 print(y)
```

```
1 def f(x, y = 1, z = 2):
2     return x + y + z
3
4 print(f(1, 1, 1))
5 print(f(y = 1, x = 2, z = 3))
6 print(f(1, z = 3))
```

3. Can the following code run? If so, what is the result?

```
1 x = 10
2 if x < 0:
3     y = -1
4 else:
5     y = 1
6 print("y is", y)
```

- Write a compare function that returns 1 if `a > b`, 0 if `a == b`, and -1 if `a < b`.
- Write a program that contains two functions:
 - Calculate area of rectangle
 - Calculate area of circle

6. Write a function to reverse digits of a number.
7. Write a function to show greeting based on current time:
 - Good morning (0 – 11:59)
 - Good afternoon (12 – 15:59)
 - Good evening (16 - 20:59)
 - Good night (21 – 23:59)