11.10 Review Questions

1. Consider the following code. When prompted for input, the user enters the string `SATURDAY`. What is the output?

```
day = input("What day is it? ")
day = day.lower()
```

```
if day == 'saturday' or day == 'sunday':
   print("Play!")
else:
   print("Work.")
```

2. Consider the following code. When prompted for input, the user enters the string `monday`. What is the output?

```
day = input("What day is it? ")
day = day.lower()
if day != 'saturday' and day != 'sunday':
   print("Yep.")
else:
   print("Nope.")
```

3. Consider the following code. What is the output?

```
values = [-3, 4, 7, 10, 2, 6, 15, -300]
wanted = []
for value in values:
    if value > 3 and value < 10:
        wanted.append(value)

print(wanted)
```

4. What is the output generated by the following code?

```
a = 5
b = 10
if a < b or a < 0 and b < 0:
  print("Yes, it's true.")
else:
  print("No, it's false.")
```

5. What is the value of `x` after the following code executes?

```
x = 2 * 4 - 8 == 0
```

   (a) `True`
   (b) `False`
   (c) None of the above.
   (d) This code produces an error.

6. What is the output generated by the following code?

```
a = 5
b = -10
if a < b or a < 0 and b < 0:
  print("Yes, it's true.")
else:
  print("No, it's false.")
```

7. What is the output generated by the following code?

```
a = -5
b = -10
if (a < b or a < 0) and b < 0:
  print("Yes, it's true.")
else:
  print("No, it's false.")
```

8. What is the output produced by the following code?

```
a = [1, 'hi', False, '', -1, [], 0]
for element in a:
   if element:
      print('T', end=" ")
   else:
      print('F', end=" ")
```

9. Consider the following conditional expression:

```
x > 10 and x < 30
```

Which of the following is equivalent to this?

(a) `x > 10 and < 30`

(b) `10 < x and 30 > x`

(c) `10 > x and x > 30`

(d) `x <= 10 or x >= 30`

10. To what value is `c` set by the following code?

```
a = -3
b = 5
c = a <= (b - 8)
```

(a) `True`

(b) `False`

(c) This code produces an error.

11. What is the output produced by the following code?

```
def is_lower(ch):
   return 'a' <= ch and ch <= 'z'

print(is_lower("t"))
```

(a) `True`

(b) `False`

(c) `None`

(d) This code produces an error

12. What is the output produced by the following code?

```
def is_there(names, query):
   for name in names:
      if query == name:
         return True

print(is_there(['Jake', 'Jane', 'Alice'], 'Tom'))
```

(a) `True`

(b) `False`

(c) `None`

(d) This code produces an error.

13. What output is produced by the following code?

```
def monotonic(xlist):
    for i in range(len(xlist) - 1):
        if xlist[i] < xlist[i + 1]:
            return False
    return True

data1 = [5, 3, 2, 2, 0]
data2 = [5, 2, 3, 2, 0]
print(monotonic(data1), monotonic(data2))
```

(a) `True True`

(b) `True False`

(c) `False True`

(d) `False False`

(e) None of the above.

14. What output is produced by the following code?

```
def swapper(xlist):
    for i in range(len(xlist) - 1):
        if xlist[i] > xlist[i + 1]:
            # Swap values.
            xlist[i], xlist[i + 1] = xlist[i + 1], xlist[i]

data = [5, 3, 2, 2, 0]
swapper(data)
print(data)
```

15. What is the value of `x` after the following code executes?

```
y = 10
x = 2 * 4 - 8 or y
```

(a) `True`

(b) `False`

(c) None of the above.

(d) This code produces an error.

16. What is the value of `x` after the following code executes?

```
y = 10
if 2 * 4 - 8:
    x = 2 * 4 - 8
else:
    x = y
```

(a) `True`

(b) `False`

(c) `0`

(d) `10`

17. What is the value of `x` after the following code executes?

```
x = 4
while x > 0:
    print(x)
    x = x - 1
```

(a) `4`

(b) `1`

(c) `0`

(d) `-1`

(e) None of the above.

18. What is the value of `x` after the following code executes?

```
x = 4
while x == 0:
    print(x)
    x = x - 1
```

(a) `4`

(b) `1`

(c) `0`

(d) `-1`

(e) None of the above.

19. What is the value returned by the function `func1()` when it is called in the following code?

```
def func1(xlist):
    for x in xlist:
        if x < 0:
            return False
    return True

func1([5, 2, -7, 7])
```

(a) `True`

(b) `False`

(c) None of the above.

(d) This code produces an error.

20. What is the value returned by the function `func2()` when it is called in the following code?

```
def func2(xlist):
    for i in range(len(xlist) - 1):
        if xlist[i] + xlist[i + 1] == 0:
            return True
    return False

func2([5, 2, -7, 7])
```

(a) `True`

(b) `False`

(c) None of the above.

(d) This code produces an error.