

1. Consider the following function:

```
def mystery(weekday: str, time_of_day: str, temp: int) -> None:
    if temp < 32:
        if weekday != 'Tuesday':
            if time_of_day == 'Morning':
                print('Go get a coffee')
            else:
                print('Go get a hot chocolate')
        else:
            print('Everything is closed')
    print("It's so cold")
    elif temp < 75:
        if time_of_day == "Morning":
            print("Eat brunch")

        if weekday == 'Sunday' or weekday == 'Saturday':
            print('Walk around')
    else:
        print("It's so hot")
        if time_of_day == 'Afternoon':
            print("Stay inside")
        else:
            print("Sit on the porch")
    print("Enjoy your day!")
```

(a) (2 points) What gets printed when `mystery` is called with values: "Tuesday" for `weekday`, "Morning" for `time_of_day`, and 18 for `temp`?

Solution:

```
Everything is closed
It's so cold
Enjoy your day!
```

(b) (2 points) What gets printed when `mystery` is called with values: "Saturday" for `weekday`, "Afternoon" for `time_of_day`, and 32 for `temp`?

Solution:

```
Walk around
Enjoy your day!
```

(c) (2 points) What values would make the function print the following (you only need to provide one test case):

```
Go get a hot chocolate
It's so cold
Enjoy your day!
```

Solution:

any value other than 'Tuesday', 'Morning', and <32

- (d) (2 points) What values would make the function print the following (you only need to provide one test case):

```
It's so hot
Stay inside
Enjoy your day!
```

Solution:

any value and 'Afternoon' and >74

2. For this question consider the following function:

```
def while_func(x: int) -> None:
    while x != 0:
        if x > 3:
            x = x - 6
            print('inner', x)
        else:
            print(x)
            x = x + 3
```

(a) (5 points) What is the output when `while_func` is called with 5? Write the first four lines of printed output unless the loop terminates sooner. Indicate if the loop is or is not an infinite loop

Solution:

```
inner -1
-1
2
inner -1
Infinite loop
```

- (b) (5 points) What is the output when `while_func` is called with 15? Write the first four lines of printed output unless the loop terminates sooner. Indicate if the loop is or is not an infinite loop.

Solution:

```
inner 9
innner 3
3
inner 0
Not an infinite loop
```