COMP7022
Programming for Artificial Intelligence

Class 2

The aim of this class is practice the use of if statements and loops in Python. To start, create a new Jupyter Notebook – you could name it 'Class 2'. Each task provides a sample input values, but your solution must work with any input values.

Note: The exercise marked with a * is part of Assessment 1 – you should show your solution to your class supervisor by the end of Class 3.

1. Write a Python code that creates a list of numbers between 1 and 100 that are divisible by 2 and 5. Remember to use the `range()` function and the module division (`%`).

```
divisible = []

# write your logic here

print(divisible) # this line will print the list
```

2. Given the following list of strings, write a Python code to create a list that includes names that start with a specific letter (e.g., letter 'H').

```
names = ["Jim", "Hetty", "Kirsten", "Theo", "Henry", "Paul"]
letter = "K"
filtered = []

# write your logic here

print(filtered)  # this line will print the list
```

3. Given 2 lists of numbers, write a Python code that returns the sum of the values that occur is both lists:

```
values1 = [4, 6, 2, 9, 10, 11, 24, 50, 33]
values2 = [3, 5, 24, 12, 13, 4, 20, 10, 6] total = 0

# write your logic here

print(total)
```

4. Write a Python code that returns the sum of the indexes of the values of a list that are greater than 10.

```
values_list = [4, 12, 2, 9, 10, 11, 5, 9, 33]
total = 0

# write your logic here

print(total)
```

5. * Write a Python code that verifies which player has won a game of tic-tac-toe. The code should print the symbol of the winning player or “none” in case there are no winners. Test your code with different variations of a game state.

```
game_state = [["x", "o", "o"],
              ["o", "x", "x"],
              ["x", "x", "o"]]
result = "none"

# write your logic here

print(result)
```