

Homework #4

Scientific Computing (501125-2)

2022-2023 3rd Trimester

Due: Wednesday June 7, 2023, 11:59 pm via Blackboard

- 1) What is the main difference between for loops and while loops?
- 2) Write the for loop syntax. How does it work?
- 3) Write the while loop syntax. How does it work?
- 4) What is the outcome of each of the following Matlab codes:

```
o for i = [ 1 2 4 5 6]
    disp(i)
end
```

```
o for k = 5:8
    disp(k)
end
```

```
o for u = 3:0.5:6.5
    disp(u)
end
```

```
o for t = 0:-3:-8
    disp(t)
end
```

- 5) Use a for loop to write a Matlab program that reads a number n from the user and then prints the phrase 'Welcome to Taif University' n number of times.
- 6) Use a for loop to write a Matlab program that asks the user to enter 4 numbers and then calculates the average of these 4 numbers.
- 7) What is the outcome of each of the following Matlab codes:
- o

```
i = 3
while (i <=10)
disp (i);
i = i + 1;
end
```
 - o

```
i = 5
while (i ~= 13)
disp (i);
i = i + 3;
end
```
- 8) Use a while loop to write a Matlab program to find the average any set of numbers entered by the user (not of known size)