Homework #4

Scientific Computing (501125-2)

Spring 2021

Due on: Tuesday April 6, 2021, 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)