

Tutorial 1**Total 10 marks****Question 1 (1 mark)**

- (i) Log into the remote server using the username and password provided, or use your own computers if you so wish.
- (ii) Create a folder called Tutorial_1. All of your solutions for this tutorial will be placed inside this folder.

Question 2 (2 marks)

Using the remote server, or your own machine, create a C code which says "Hello World". Save the code tutorial_1a.c and place it inside the Tutorial_1 folder. Compile it and run it.

Question 3 (2 marks)

Using the remote server, or your own machine, write a C code called Tutorial_1b.c which takes a text message and "encodes" it by replacing all vowels with the letter "p". The user should be able to enter the string when the program is run, and the new message should appear after the user has finished writing their message. An example is shown below:

```
Enter the string you want to encode
This is my string
You typed = This is my string <using 17 characters>
Encoded message = Thps ps my strpng
```

Question 4 (5 marks)

Using the remote server (or your own computer) write a C code called Tutorial_1c.c. Your code should contain the following things:

- (i) An int main() function which calls a function Compute_Accelerations() to compute the accelerations of the masses in the mass-spring system shown below.
- (ii) A function Compute_Accelerations() which takes the positions x_1 , x_2 and x_3 as arguments and returns the accelerations of each mass in an array.
- (iii) Choose your own values of k , M and x_1, x_2, x_3 to check to make sure your code works properly.

