

Session no. 4

Learning goals: Work with simple algorithms including flow control and loops. First functions

1. Write a program that asks for a number and prints the squares of the numbers ranging from one to the given value.
2. Write a program that generates ten random numbers between 1 and 100 and prints the greater of them.
3. Write a program that asks for an integer number and prints its multiplication table.
4. Modify the previous program so that the output is nicely formatted in columns. This can be achieved using the `format` functionality. To see how this works, try the following program:

```
print("{} y {} are even numbers".format(2,4))
print("{:4d} y {:4d} are even numbers".format(2,4))
print(":{:04d} y {:04d} are even numbers".format(2,4))
```

5. Write a program that shows whether a given number is prime or not.
6. The program included below uses a function to calculate the final mark from three partial marks using three weighting factors.

```
def calculate_mark(test1, test2, lab):
    return test1*0.35 + test2*0.35 + lab*0.3

print(calculate_mark(7.5, 8.5, 7))
print(calculate_mark(4.7, 7.2, 6.8))
```

Modify this program so that the weighting factors are also passed as input arguments to the function.