ENGG1330 Computer Programming

Tutorial 10

Aims and Objective:

Solve problem with recursion

1. The basic

   Consider the following program that print all the even number from 1 to n

```
def even(n):
  for i in range(1,n+1):
     if i%2==0:
          print(f"{i}",end=" ")
```

   If we consider the problem with recursion, the solution could be rewrite as

   "even(n)" is equal to "call even(n-1) and then print n if n is an even number"

   I.e. even(n)=even(n-1) + "print n if n is an even number"

```
def even(n):
    if n==0:
        return
    even(n-1);
    if n%2==0:
        print(f"{n}",end=" ")
```

   Modify the recursive version of function even so that the number will be printed in descending order.

Case	Input	Output
1	5	4 2
2	10	10 8 6 4 2

2. A Prime number is a positive integer that great than 1 and its only factors are 1 and itself.

Write a program that accepts an integer N and determine if N is a prime number by recursion.

Case	Input	Output
1	5	true
2	10	false
3	7	true
4	2	true