Assignment 1

Non - recursive and Recursive program to calculate Fibonacci numbers

In [1]:
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# Function to implement Iterative Approach
def IterativeFibo(n):
    f1 = 0
    f2 = 1
    for i in range(n):
        if i < 2:
            print(i,end = ' ')
        else:
            f3 = f1 + f2
            f1 = f2
            f2 = f3
            print(f3,end = ' ')

# Function to implement Recursive Approach
def RecursiveFibo(n):
    if (n == 0 or n == 1):
        return n
    else:
        return (RecursiveFibo(n-1) + RecursiveFibo(n-2))

def main():
    n = 10

    print("ITERATIVE FIBONACCI: ")
    IterativeFibo(n)

    print("\nRECURSIVE FIBONACCI: ")
    for i in range(n):
        print(RecursiveFibo(i),end = ' ')

if __name__ == '__main__':
    main()
```

```
ITERATIVE FIBONACCI:
0 1 1 2 3 5 8 13 21 34
RECURSIVE FIBONACCI:
0 1 1 2 3 5 8 13 21 34
```

In [ ]:
```

```