

## Assignment No.1:- Non - recursive and Recursive program to calculate Fibonacci numbers

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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: ")
```

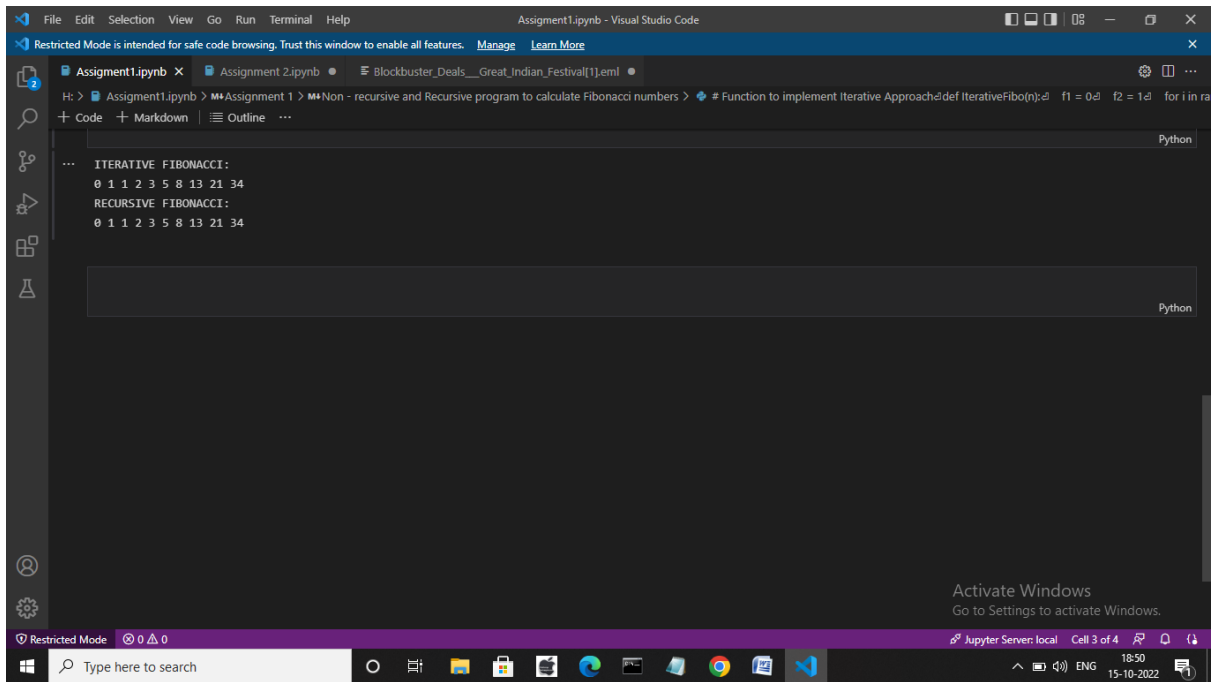
```
    for i in range(n):
```

```
        print(RecursiveFibo(i),end = ' ')
```

```
if __name__ == '__main__':
```

```
    main()
```

## Output



The screenshot shows a Jupyter Notebook titled "Assignment1.ipynb" in Visual Studio Code. The notebook is in "Restricted Mode" and contains two code cells. The first cell displays the output of a Fibonacci sequence calculation, showing the sequence 0, 1, 1, 2, 3, 5, 8, 13, 21, 34. The second cell displays the output of a recursive Fibonacci function, also showing the sequence 0, 1, 1, 2, 3, 5, 8, 13, 21, 34. The notebook is running on a Jupyter Server (local) and the output is displayed in a Python environment.

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

Activate Windows  
Go to Settings to activate Windows.

Restricted Mode 0 0 0 Jupyter Server: local Cell 3 of 4 18:50 15-10-2022