

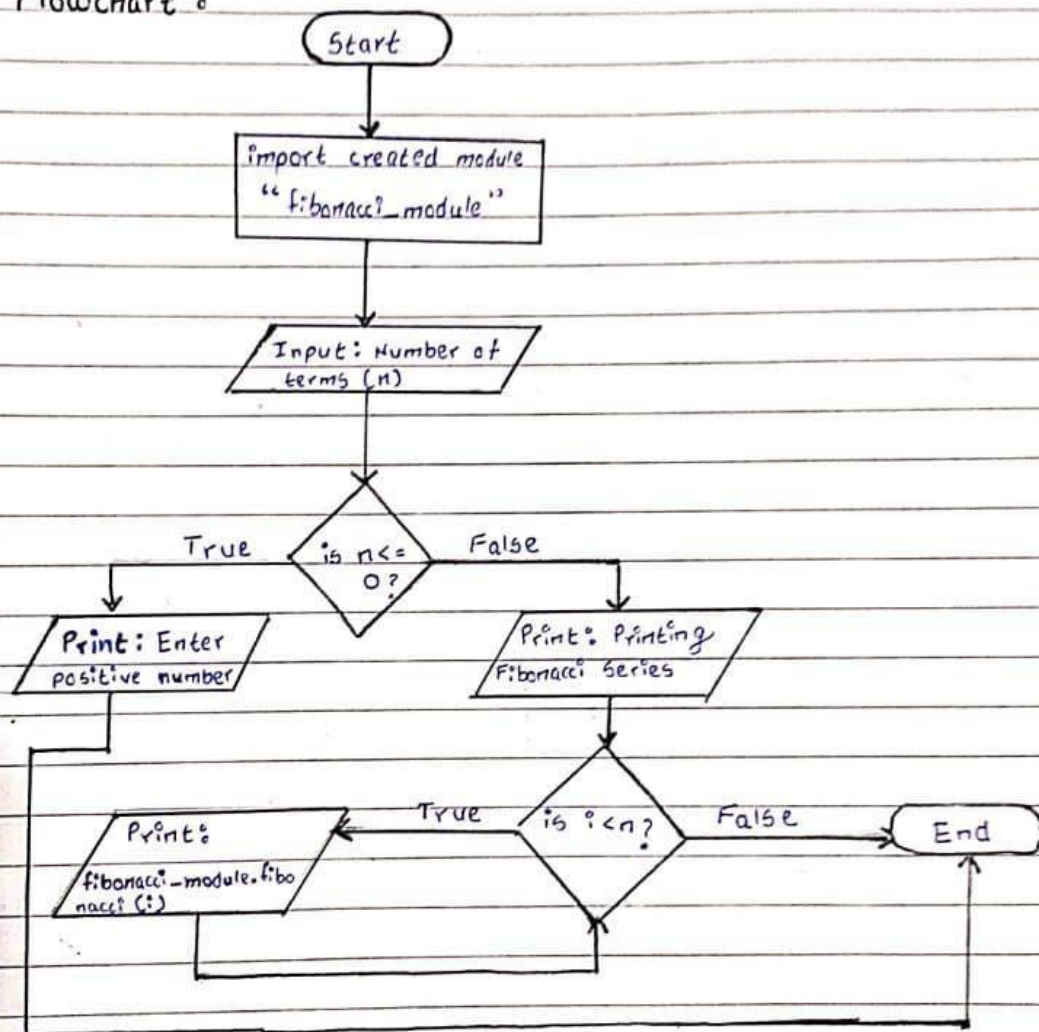
Mudit Garg
CSE - B2
21070122098

Page No.
Date 5 / 1 / 22

Programming and Problem Solving Lab: End Semester Exam

Title: Write a python program to find the Fibonacci series using modules

Flowchart:



Source Code:

1. `# fibonacci series` `imported module`
`# module to import` `saved as fibonacci_module.py`
`# using recursive function`

```
def fibonacci(n):  
    if n <= 1:  
        return n  
    else:  
        return (fibonacci(n-1) + fibonacci(n-2))
```

2. `# fibonacci series by importing module`

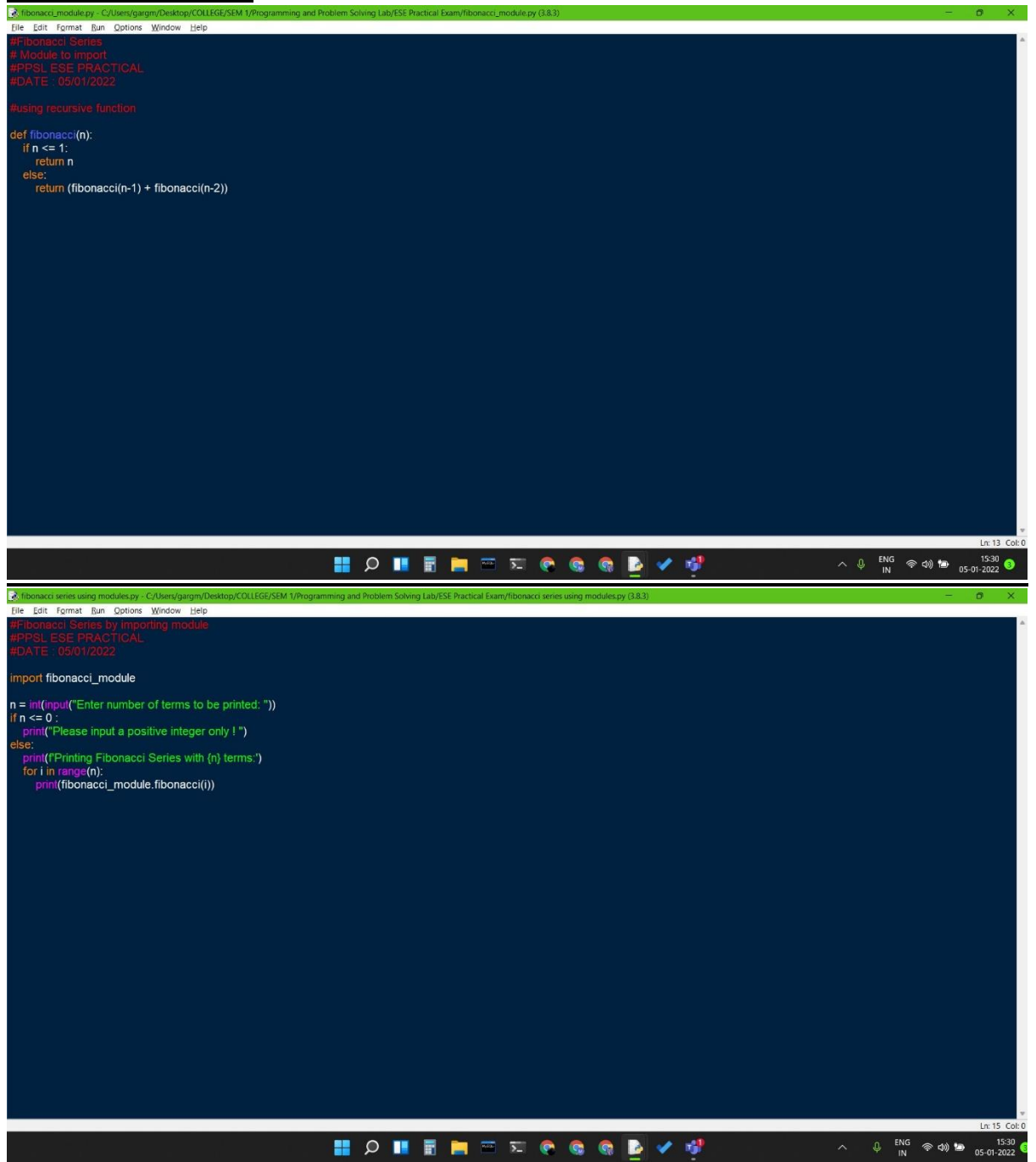
```
import fibonacci_module  
n = int(input("Enter number of terms to be printed: "))  
if n <= 0:  
    print("Please input a positive integer only!")  
else:  
    print(f'Printing Fibonacci Series with {n} terms:')  
    for i in range(n):  
        print(fibonacci_module.fibonacci(i))
```

Learning Outcomes:

The following program helped to understand the use of modules. It helped to understand how to define a function, recursive function and import it into another program to optimise the code and reduce the number of lines and thus reuse the same functions many times throughout the program. Thus, it helped to realise the utility of modules. It also helped to understand the syntax of f-string (formatted string).

SCREENSHOTS

- **SOURCE CODE:**



```
fibonacci_module.py - C:/Users/gargm/Desktop/COLLEGE/SEM 1/Programming and Problem Solving Lab/ESE Practical Exam/fibonacci_module.py (3.8.3)
File Edit Format Run Options Window Help

#Fibonacci Series
# Module to import
#PPSL ESE PRACTICAL
#DATE : 05/01/2022

#using recursive function

def fibonacci(n):
    if n <= 1:
        return n
    else:
        return (fibonacci(n-1) + fibonacci(n-2))

Ln: 13 Col: 0

fibonacci series using modules.py - C:/Users/gargm/Desktop/COLLEGE/SEM 1/Programming and Problem Solving Lab/ESE Practical Exam/fibonacci series using modules.py (3.8.3)
File Edit Format Run Options Window Help

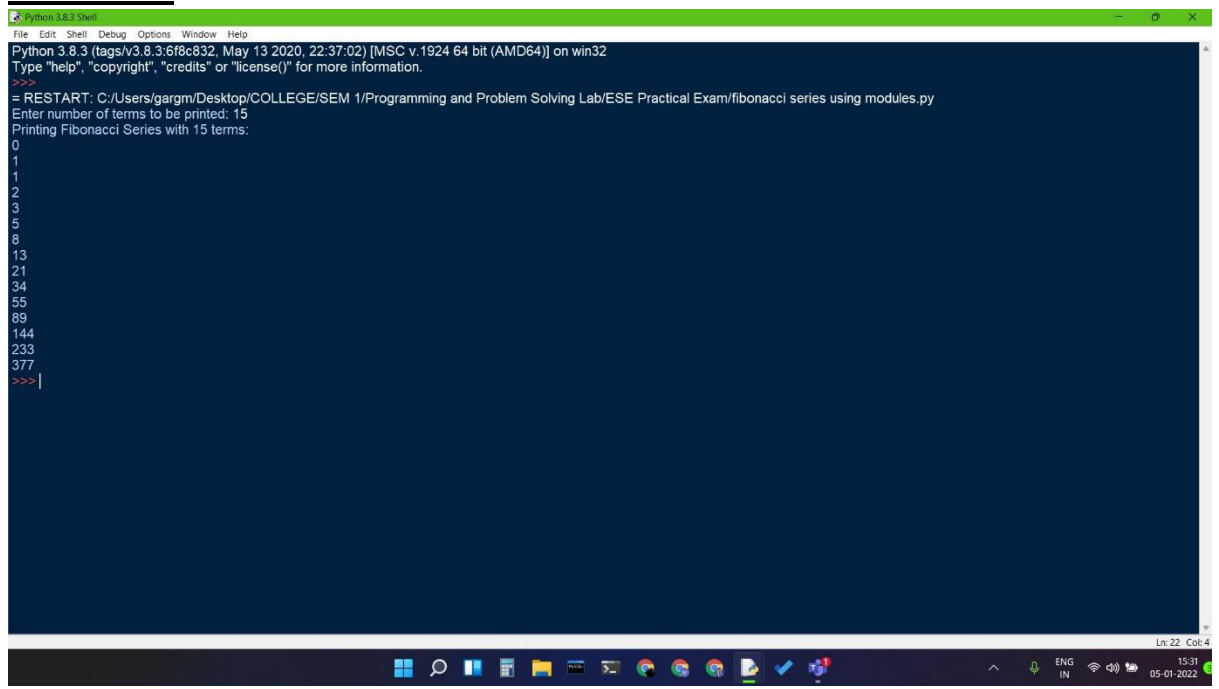
#Fibonacci Series by importing module
#PPSL ESE PRACTICAL
#DATE : 05/01/2022

import fibonacci_module

n = int(input("Enter number of terms to be printed: "))
if n <= 0:
    print("Please input a positive integer only ! ")
else:
    print(f"Printing Fibonacci Series with {n} terms.")
    for i in range(n):
        print(fibonacci_module.fibonacci(i))

Ln: 15 Col: 0
```

- **OUTPUT:**



The screenshot shows a Python 3.8.3 Shell window with a dark blue background. The window title is "Python 3.8.3 Shell". The menu bar includes "File", "Edit", "Shell", "Debug", "Options", "Window", and "Help". The text in the window is as follows:

```
Python 3.8.3 (tags/v3.8.3:6f8c832, May 13 2020, 22:37:02) [MSC v.1924 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/gargm/Desktop/COLLEGE/SEM 1/Programming and Problem Solving Lab/ESE Practical Exam/fibonacci series using modules.py
Enter number of terms to be printed: 15
Printing Fibonacci Series with 15 terms:
0
1
1
2
3
5
8
13
21
34
55
89
144
233
377
>>> |
```

The Windows taskbar is visible at the bottom, showing the Start button, search bar, and several application icons. The system tray on the right shows the language set to "ENG IN", the date "05-01-2022", and the time "15:31".