

# **LOVELY PROFESSIONAL UNIVERSITY**

## **INT PROJECT**

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SECTION: KOC39

**SUBMITTED TO:**

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Remark:\_\_\_\_\_

# OUR PROJECT

## Project 12:

In this project user will enter single or multiple numbers and your system will predict that the entered number or number's is/are valid number(s) in a Fibonacci series or not.

For example, if user inputs 2 numbers

0 and 7

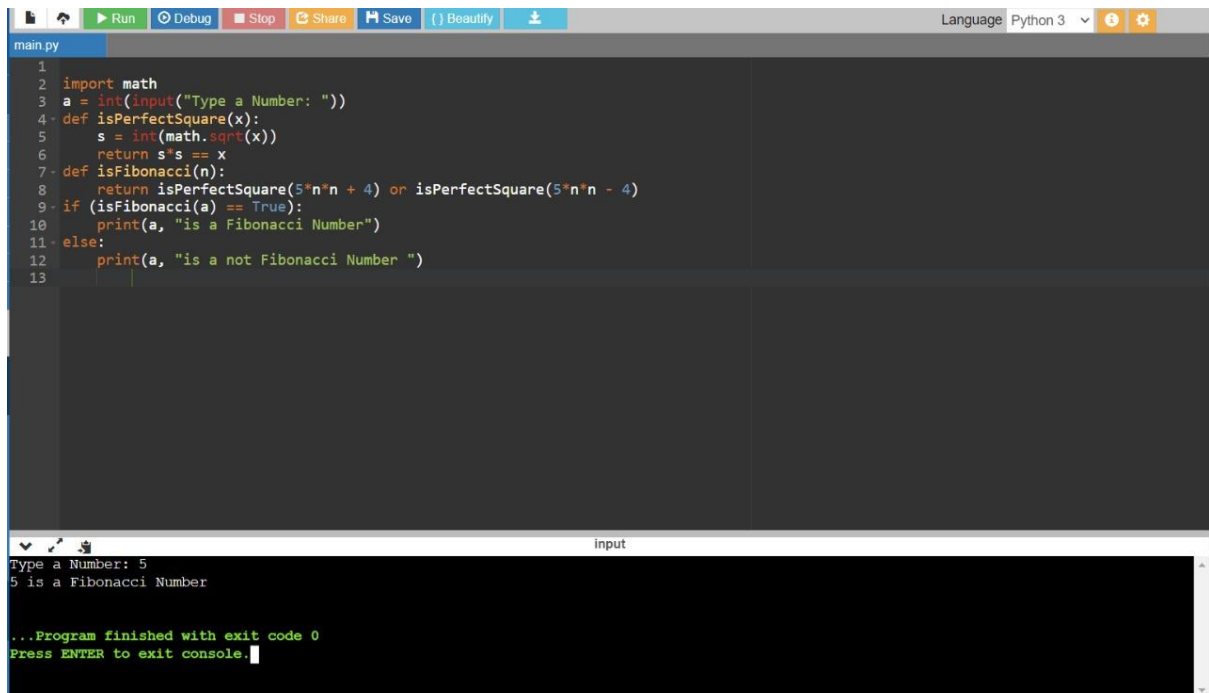
0 is valid and 7 is invalid.

Because if we plot Fibonacci series 0 1 1 2 3 5 8 13....., In this series 0 is their but 7 is not present.

**Constraint:** range of the single number or multiple numbers you are entering can be huge.

## Result :

- Number entered is valid.



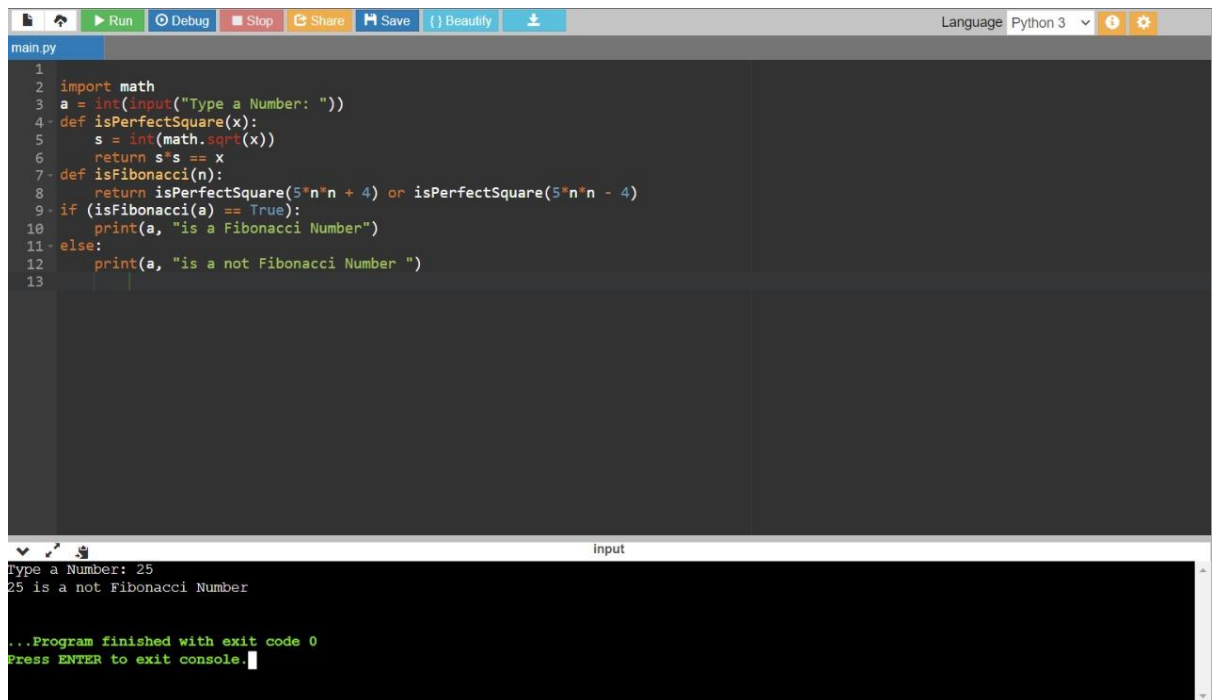
```
main.py
1
2 import math
3 a = int(input("Type a Number: "))
4 def isPerfectSquare(x):
5     s = int(math.sqrt(x))
6     return s*s == x
7 def isFibonacci(n):
8     return isPerfectSquare(5*n*n + 4) or isPerfectSquare(5*n*n - 4)
9 if (isFibonacci(a) == True):
10     print(a, "is a Fibonacci Number")
11 else:
12     print(a, "is a not Fibonacci Number ")
13
```

input

```
Type a Number: 5
5 is a Fibonacci Number

...Program finished with exit code 0
Press ENTER to exit console
```

- Number entered is not valid.



```
1
2 import math
3 a = int(input("Type a Number: "))
4 def isPerfectSquare(x):
5     s = int(math.sqrt(x))
6     return s*s == x
7 def isFibonacci(n):
8     return isPerfectSquare(5*n*n + 4) or isPerfectSquare(5*n*n - 4)
9 if (isFibonacci(a) == True):
10    print(a, "is a Fibonacci Number")
11 else:
12    print(a, "is a not Fibonacci Number ")
13
```

Type a Number: 25  
25 is a not Fibonacci Number

...Program finished with exit code 0  
Press ENTER to exit console.

THANK YOU !!!