

**Netaji Subhash Engineering College**  
**Department of Computer Science & Engineering**  
**B. Tech CSE 2<sup>nd</sup> Year 3<sup>rd</sup> Semester**  
**2021-2022**

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**Name of the Course: IT Workshop**

**Course Code: PCC-CS393**

**Name of the Student: SUTONU DHARA**

**Class Roll No.: 150**

**University Roll No.: 10900120154**

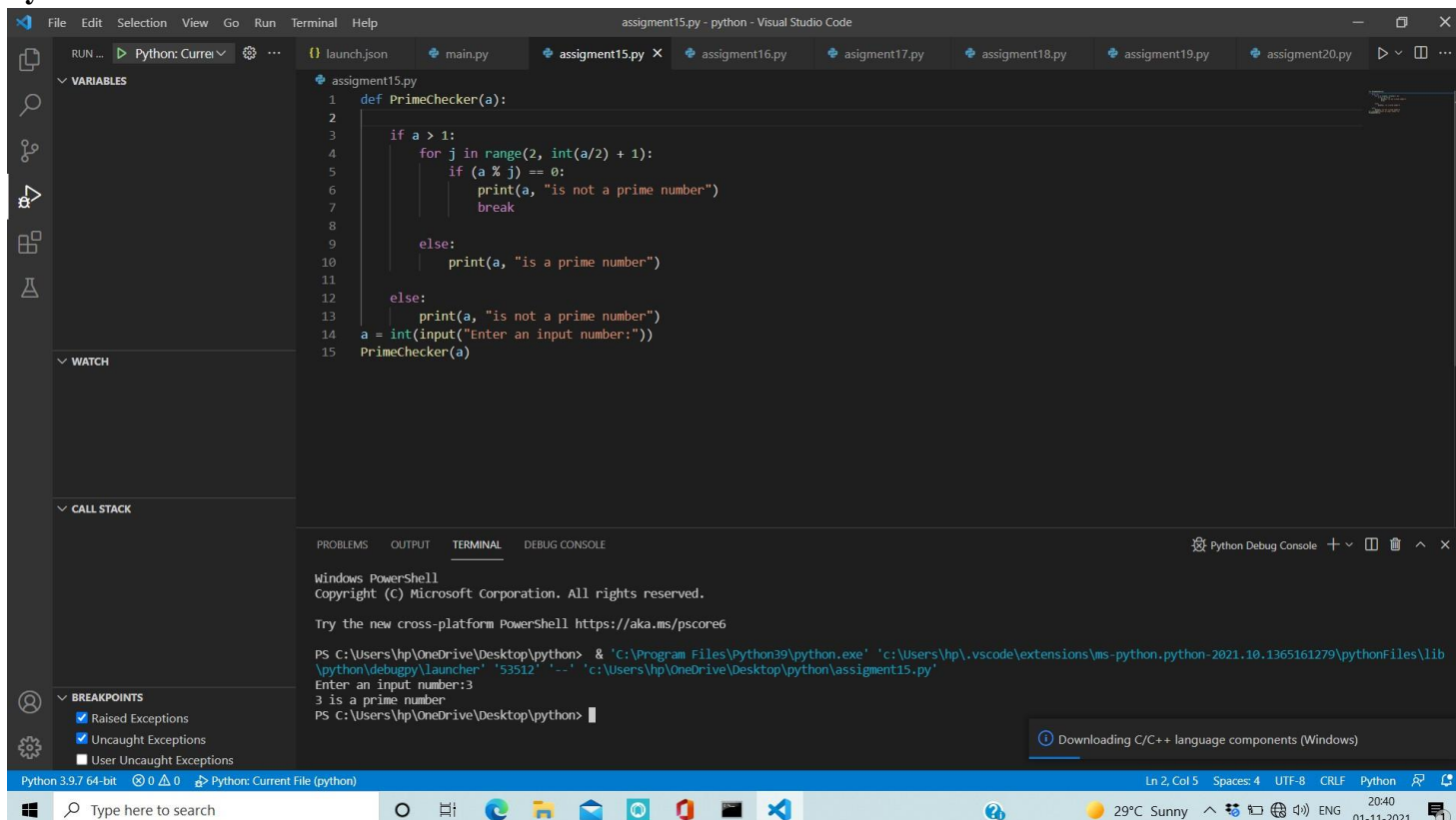
**Date of Experiment: 24-10-2021**

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◆ **Assignment No.: 15**

**Problem Statement:** write a program to check prime number.

**Python Code:**



```
1 def PrimeChecker(a):
2
3     if a > 1:
4         for j in range(2, int(a/2) + 1):
5             if (a % j) == 0:
6                 print(a, "is not a prime number")
7                 break
8
9         else:
10            print(a, "is a prime number")
11
12     else:
13         print(a, "is not a prime number")
14 a = int(input("Enter an input number:"))
15 PrimeChecker(a)
```

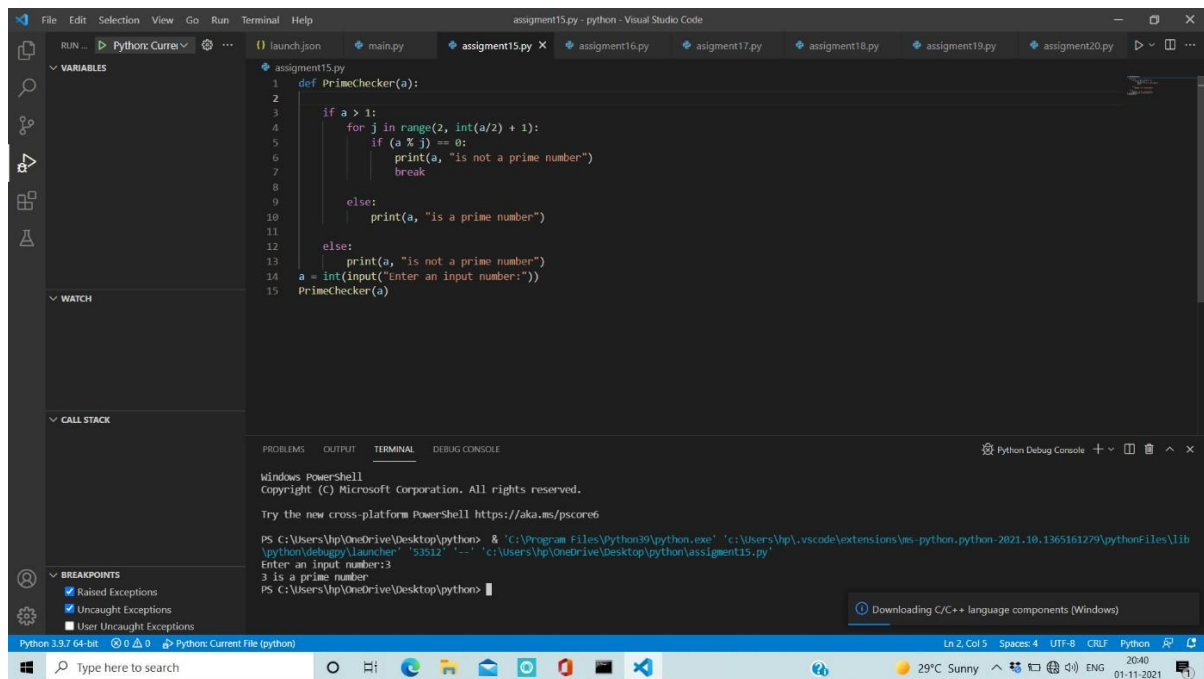
Windows PowerShell  
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Try the new cross-platform PowerShell <https://aka.ms/pscore6>

PS C:\Users\hp\OneDrive\Desktop\python> & 'C:\Program Files\Python39\python.exe' 'c:\Users\hp\.vscode\extensions\ms-python.python-2021.10.1365161279\pythonFiles\lib\python\debugpy\launcher' '53512' '-.' 'c:\Users\hp\OneDrive\Desktop\python\assignment15.py'

Enter an input number:3  
3 is a prime number  
PS C:\Users\hp\OneDrive\Desktop\python>

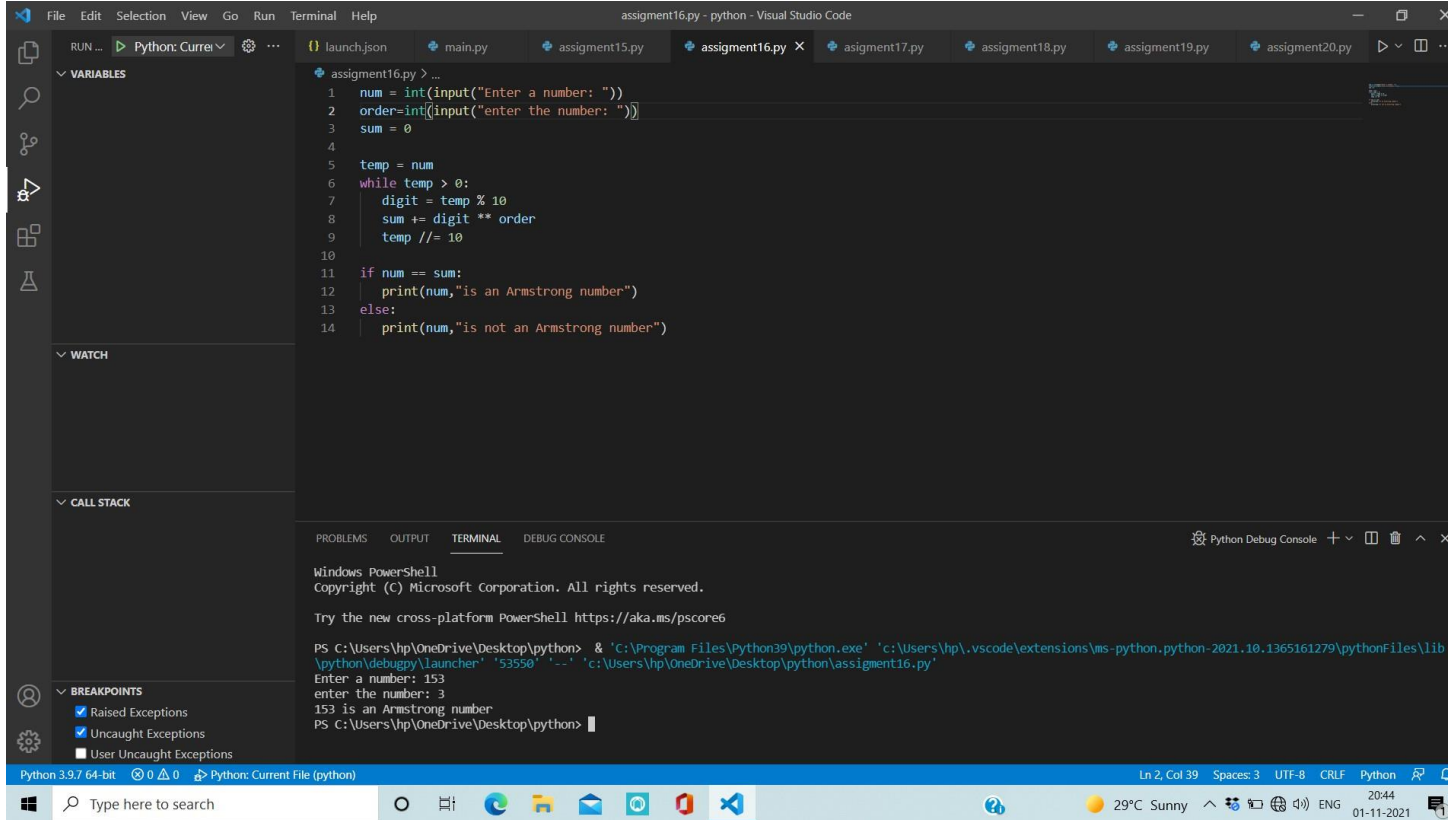
**Sample Output(s):**



- **Assignment No.: 16**

**Problem Statement:** Write a program to check Armstrong number.

## Python Code:



The screenshot shows the Visual Studio Code interface with the file `assignment16.py` open. The code is a Python script that checks if a number is an Armstrong number. The terminal output shows the program running and correctly identifying 153 as an Armstrong number.

```
1 num = int(input("Enter a number: "))
2 order=int(input("enter the number: "))
3 sum = 0
4
5 temp = num
6 while temp > 0:
7     digit = temp % 10
8     sum += digit ** order
9     temp //= 10
10
11 if num == sum:
12     print(num,"is an Armstrong number")
13 else:
14     print(num,"is not an Armstrong number")
```

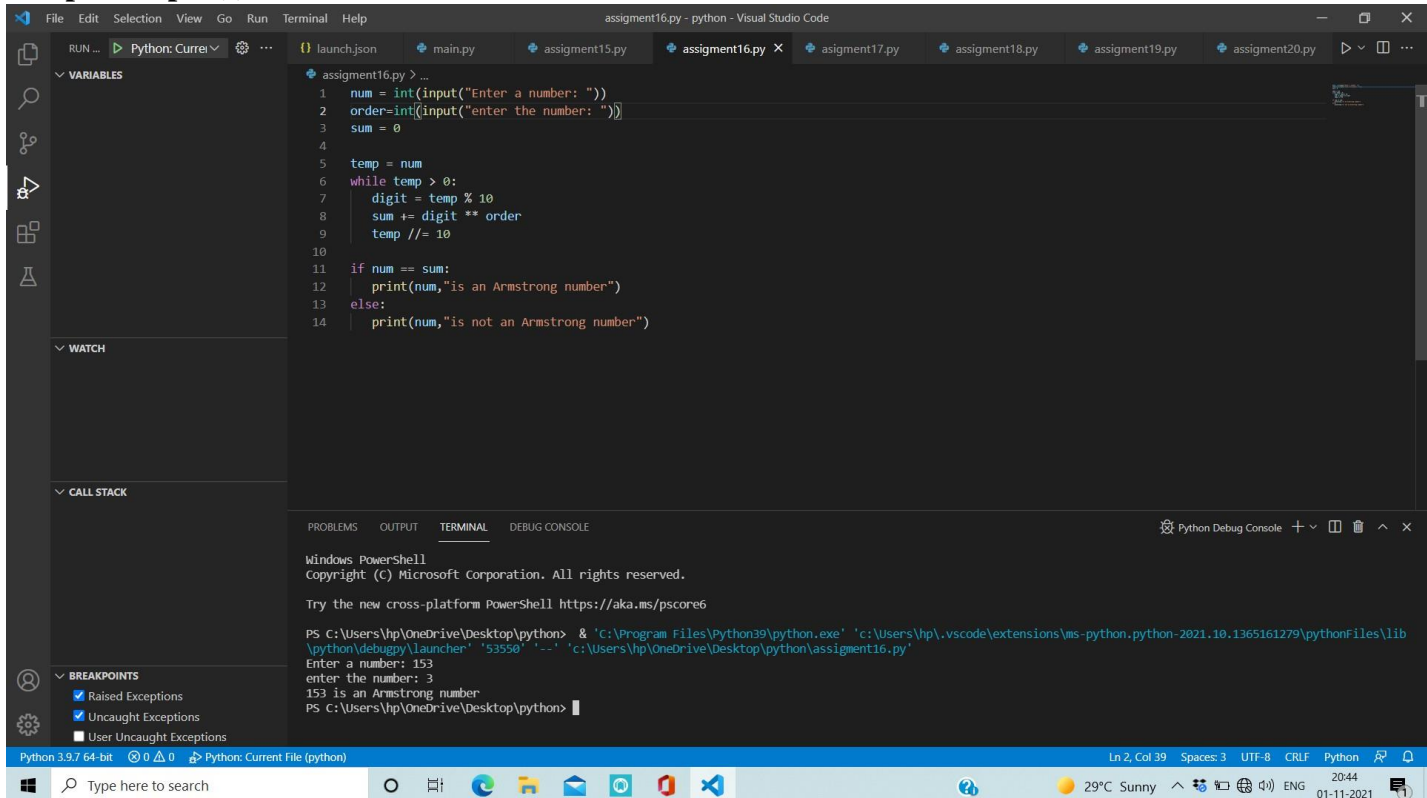
Terminal Output:

```
Windows PowerShell
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PS C:\Users\hp\OneDrive\Desktop\python> & 'C:\Program Files\Python39\python.exe' 'c:\Users\hp\.vscode\extensions\ms-python.python-2021.10.1365161279\pythonFiles\lib\python\debugpy\launcher' '53550' '-' 'c:\Users\hp\OneDrive\Desktop\python\assignment16.py'
Enter a number: 153
enter the number: 3
153 is an Armstrong number
PS C:\Users\hp\OneDrive\Desktop\python>
```

## Sample Output(s):



This screenshot is identical to the one above, showing the same Python code and terminal output for the Armstrong number check.

```
1 num = int(input("Enter a number: "))
2 order=int(input("enter the number: "))
3 sum = 0
4
5 temp = num
6 while temp > 0:
7     digit = temp % 10
8     sum += digit ** order
9     temp //= 10
10
11 if num == sum:
12     print(num,"is an Armstrong number")
13 else:
14     print(num,"is not an Armstrong number")
```

Terminal Output:

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

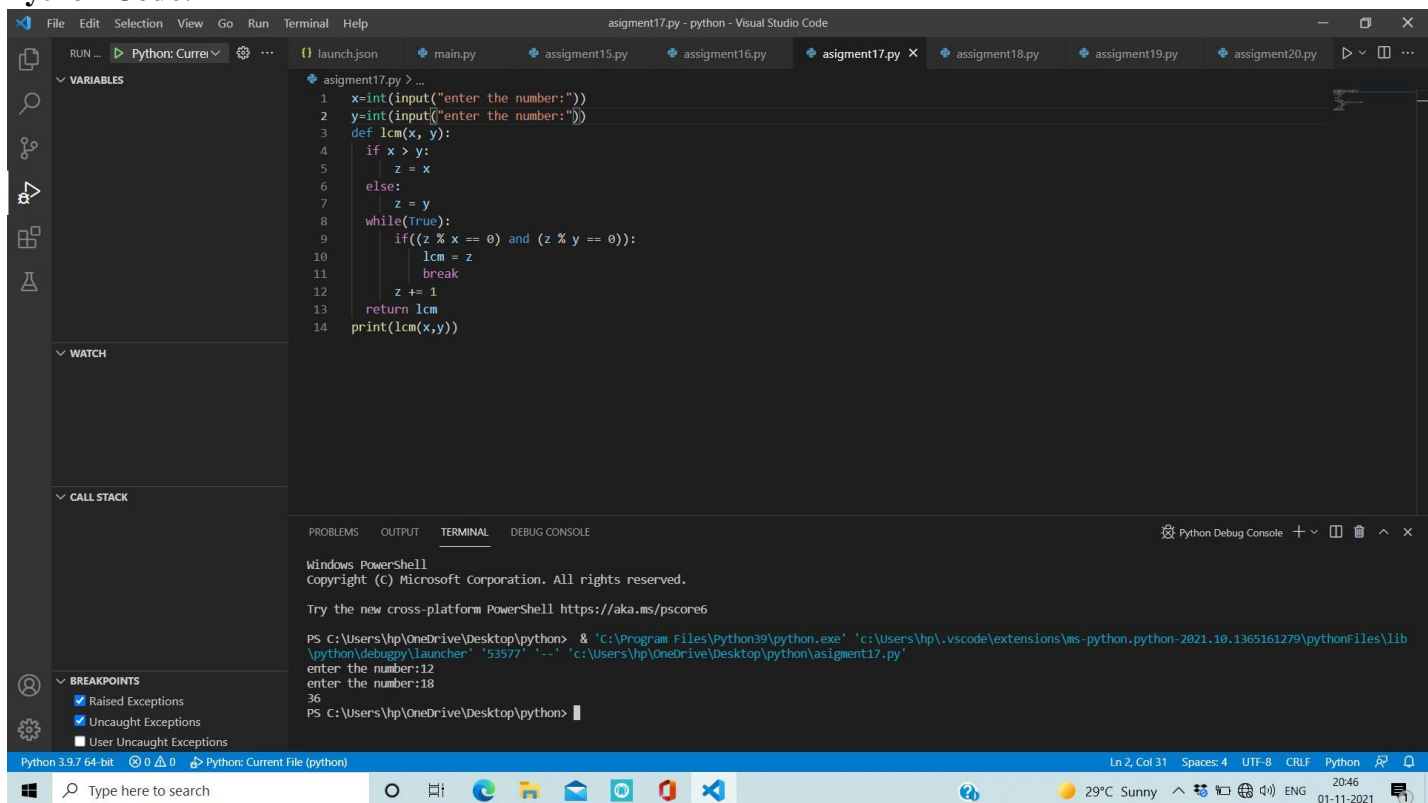
Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\hp\OneDrive\Desktop\python> & 'C:\Program Files\Python39\python.exe' 'c:\Users\hp\.vscode\extensions\ms-python.python-2021.10.1365161279\pythonFiles\lib\python\debugpy\launcher' '53550' '-' 'c:\Users\hp\OneDrive\Desktop\python\assignment16.py'
Enter a number: 153
enter the number: 3
153 is an Armstrong number
PS C:\Users\hp\OneDrive\Desktop\python>
```

- **Assignment No.: 17**

**Problem Statement:** Write a program to get the LCM of two positive number.

**Python Code:**



```
assignment17.py - python - Visual Studio Code
File Edit Selection View Go Run Terminal Help
assignment17.py x assignment18.py assignment19.py assignment20.py
1 x=int(input("enter the number:"))
2 y=int(input("enter the number:"))
3 def lcm(x, y):
4     if x > y:
5         z = x
6     else:
7         z = y
8     while(True):
9         if((z % x == 0) and (z % y == 0)):
10             lcm = z
11             break
12         z += 1
13     return lcm
14 print(lcm(x,y))

VARIABLES
WATCH
CALL STACK
BREAKPOINTS
[ ] Raised Exceptions
[ ] Uncaught Exceptions
[ ] User Uncaught Exceptions

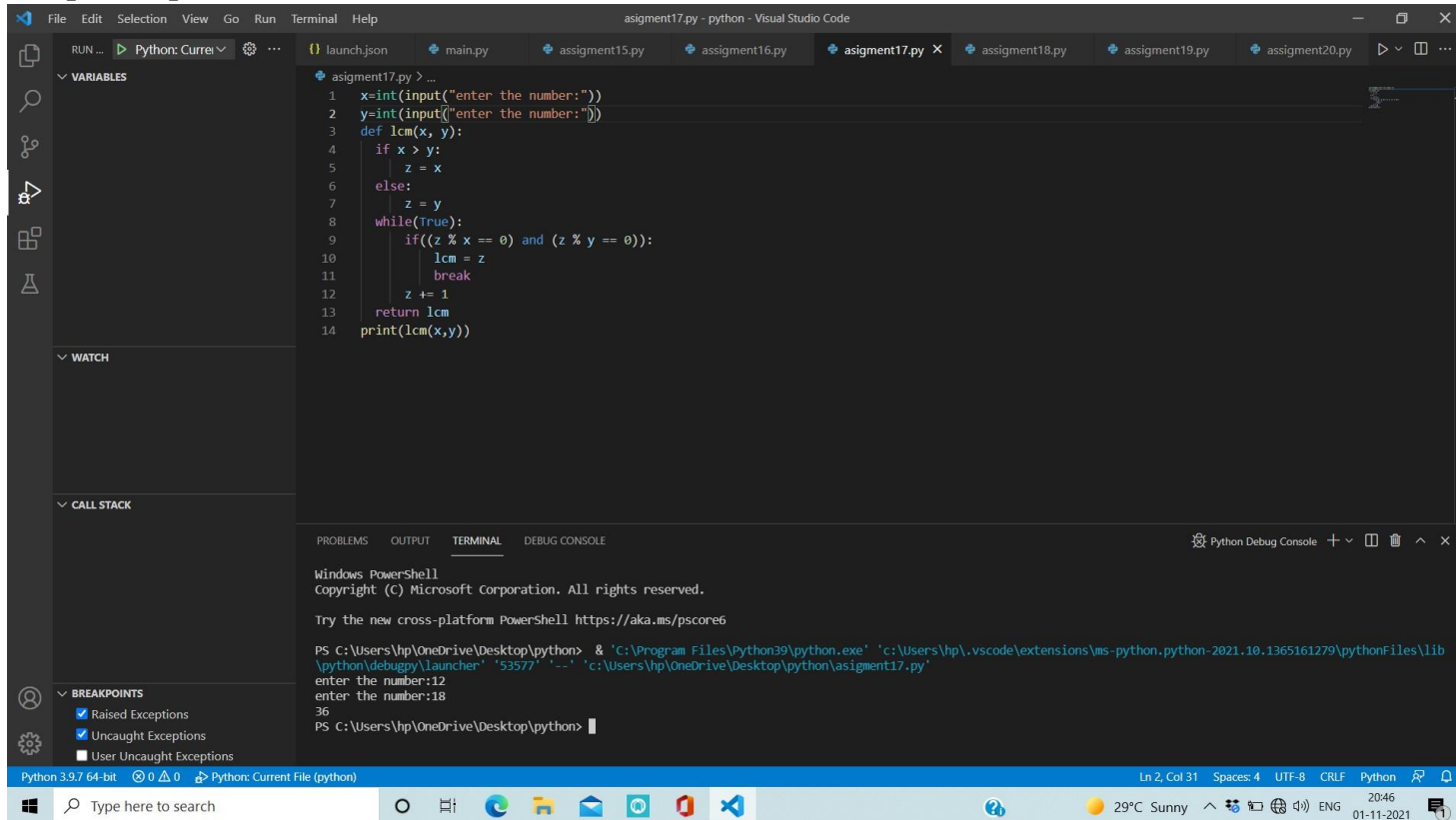
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
Python Debug Console
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\hp\OneDrive\Desktop\python> & 'C:\Program Files\Python39\python.exe' 'c:\Users\hp\.vscode\extensions\ms-python.python-2021.10.1365161279\pythonFiles\lib\python\debugpy\launcher' '53577' '-' 'c:\Users\hp\OneDrive\Desktop\python\assignment17.py'
enter the number:12
enter the number:18
36
PS C:\Users\hp\OneDrive\Desktop\python>

Python 3.9.7 64-bit 0 0 0 Python: Current File (python)
Ln 2, Col 31 Spaces: 4 UTF-8 CRLF Python
```

## Sample Output(s):



```
File Edit Selection View Go Run Terminal Help
asignment17.py - python - Visual Studio Code

launch.json main.py asignment15.py asignment16.py asignment17.py x asignment18.py asignment19.py asignment20.py

VARIABLES
WATCH
CALL STACK
BREAKPOINTS
Python: Current File (python)

1 x=int(input("enter the number:"))
2 y=int(input("enter the number:"))
3 def lcm(x, y):
4     if x > y:
5         z = x
6     else:
7         z = y
8     while(True):
9         if((z % x == 0) and (z % y == 0)):
10             lcm = z
11             break
12         z += 1
13     return lcm
14 print(lcm(x,y))

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
Python Debug Console

Windows PowerShell
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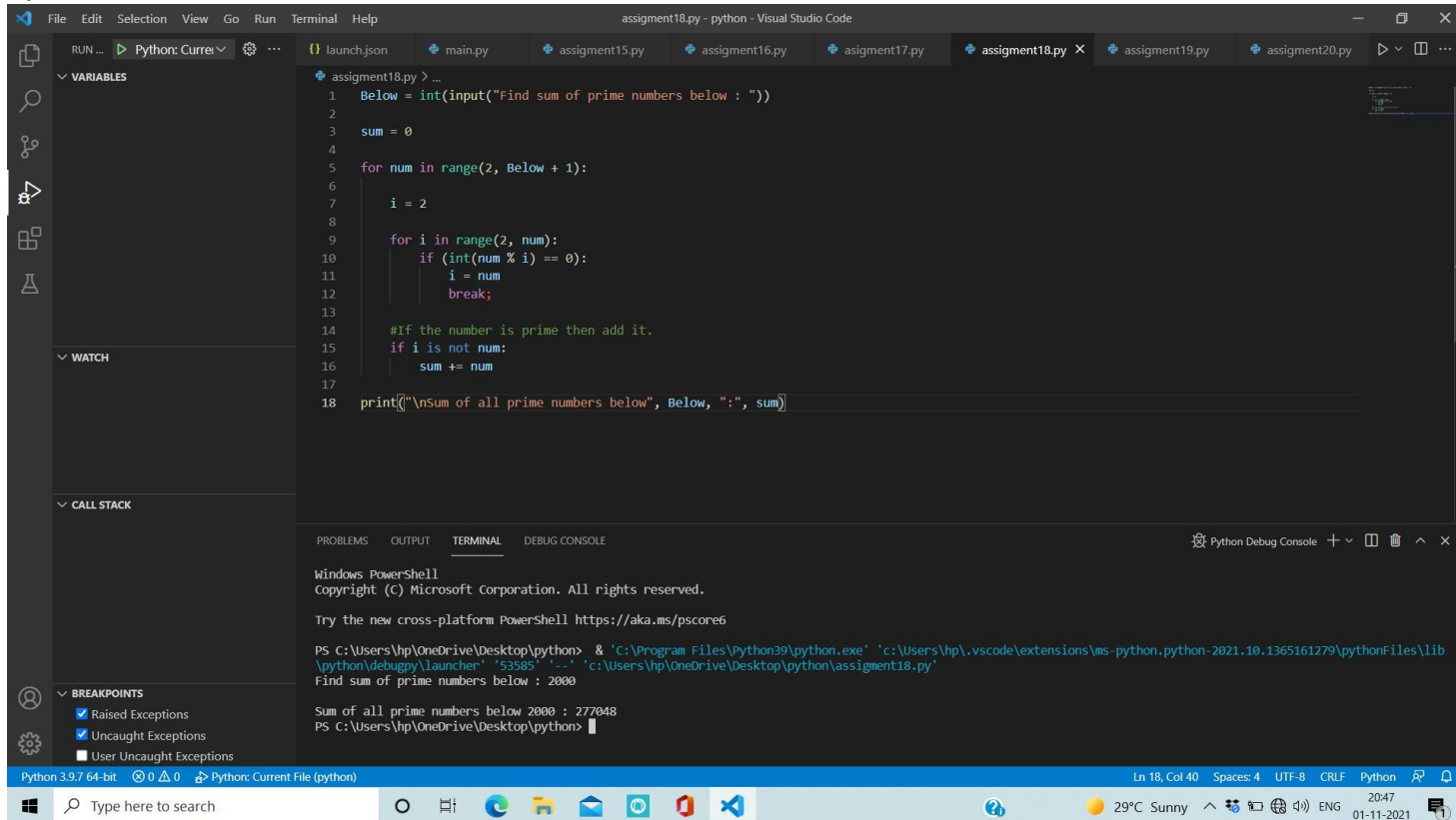
Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\hp\OneDrive\Desktop\python> & 'C:\Program Files\Python39\python.exe' 'c:\Users\hp\.vscode\extensions\ms-python.python-2021.10.1365161279\pythonFiles\lib\python\debugpy\launcher' '53577' '--' 'c:\Users\hp\OneDrive\Desktop\python\asignment17.py'
enter the number:12
enter the number:18
36
PS C:\Users\hp\OneDrive\Desktop\python>
```

- **Assignment No.: 18**

**Problem Statement:** Write a program to sum of all positive prime number below 2000.

## Python Code:



```
File Edit Selection View Go Run Terminal Help
assignment18.py - python - Visual Studio Code

launch.json main.py assignment15.py assignment16.py assignment17.py assignment18.py x assignment19.py assignment20.py

assignment18.py > ...
1 Below = int(input("Find sum of prime numbers below : "))
2
3 sum = 0
4
5 for num in range(2, Below + 1):
6
7     i = 2
8
9     for i in range(2, num):
10         if (int(num % i) == 0):
11             i = num
12             break;
13
14     #If the number is prime then add it.
15     if i is not num:
16         sum += num
17
18 print("\nSum of all prime numbers below", Below, ":", sum)
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

Windows PowerShell  
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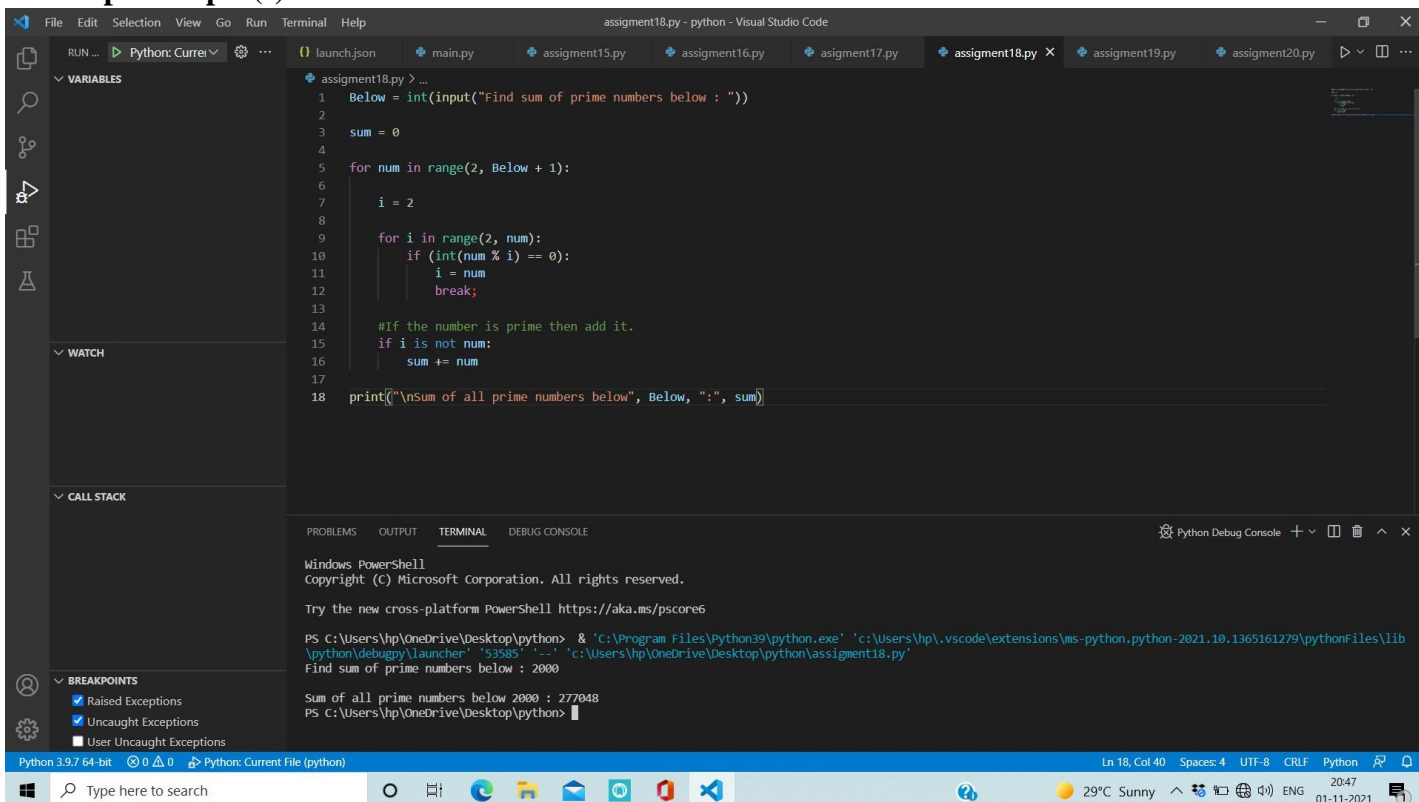
Try the new cross-platform PowerShell <https://aka.ms/pscore6>

PS C:\Users\hp\OneDrive\Desktop\python> & 'C:\Program Files\Python39\python.exe' 'c:\Users\hp\.vscode\extensions\ms-python.python-2021.10.1365161279\pythonFiles\lib\python\debugpy\launcher' '53585' '-.' 'c:\Users\hp\OneDrive\Desktop\python\assignment18.py'  
Find sum of prime numbers below : 2000

Sum of all prime numbers below 2000 : 277048  
PS C:\Users\hp\OneDrive\Desktop\python>

Python 3.9.7 64-bit 0 0 0 Python: Current File (python) Ln 18, Col 40 Spaces: 4 UTF-8 CRLF Python 20:47 01-11-2021

## Sample Output(s):



```
File Edit Selection View Go Run Terminal Help
assignment18.py - python - Visual Studio Code

launch.json main.py assignment15.py assignment16.py assignment17.py assignment18.py x assignment19.py assignment20.py

assignment18.py > ...
1 Below = int(input('Find sum of prime numbers below : '))
2
3 sum = 0
4
5 for num in range(2, Below + 1):
6
7     i = 2
8
9     for i in range(2, num):
10         if (int(num % i) == 0):
11             i = num
12             break;
13
14     #If the number is prime then add it.
15     if i is not num:
16         sum += num
17
18 print('\nSum of all prime numbers below', Below, ':', sum)
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

Windows PowerShell  
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PS C:\Users\hp\OneDrive\Desktop\python> & 'C:\Program Files\Python39\python.exe' 'c:\Users\hp\.vscode\extensions\ms-python.python-2021.10.1365161279\pythonFiles\lib\python\debugpy\launcher' '53585' '-.' 'c:\Users\hp\OneDrive\Desktop\python\assignment18.py'  
Find sum of prime numbers below : 2000

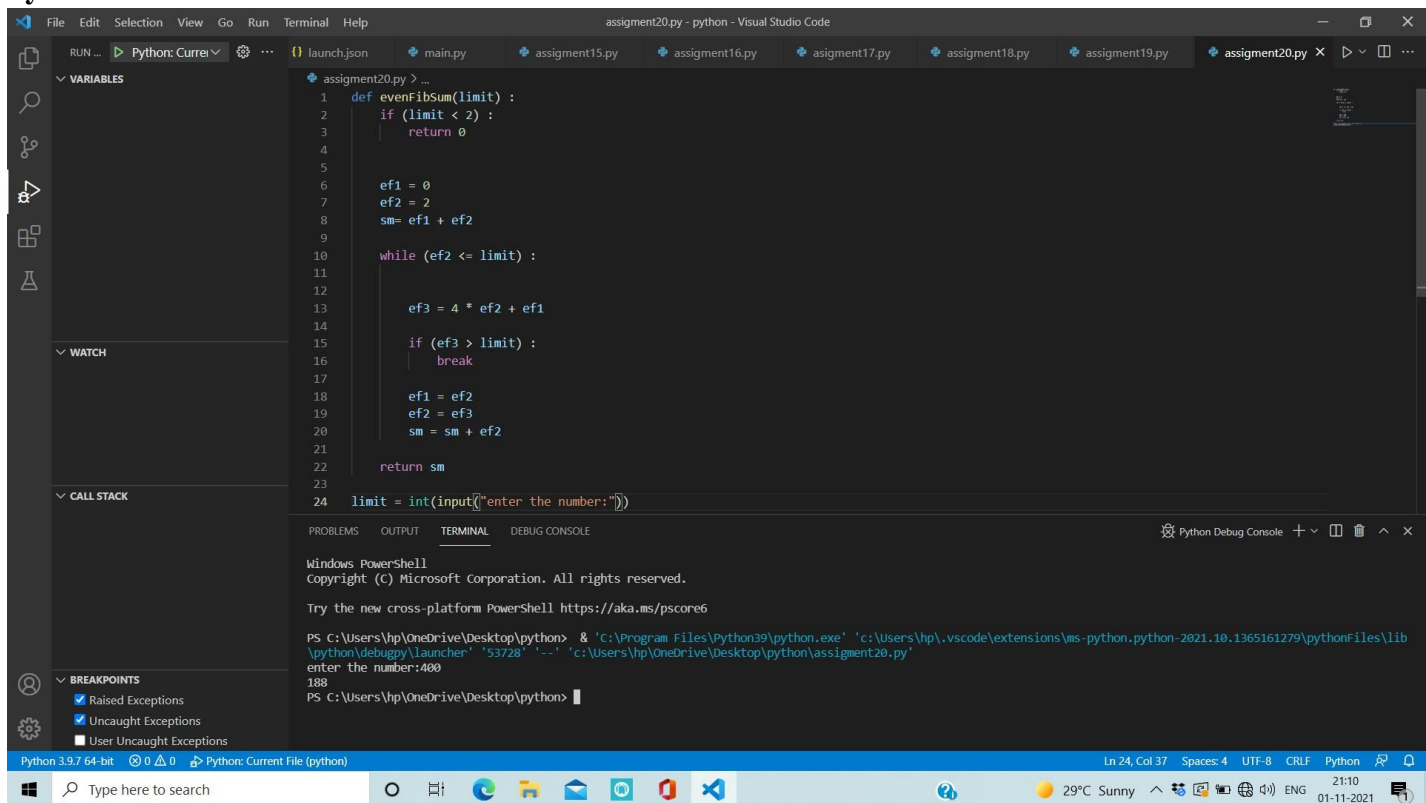
Sum of all prime numbers below 2000 : 277048  
PS C:\Users\hp\OneDrive\Desktop\python>

Python 3.9.7 64-bit 0 0 0 Python: Current File (python) Ln 18, Col 40 Spaces: 4 UTF-8 CRLF Python 20:47 01-11-2021

- **Assignment No.: 20**

**Problem Statement:** Write a program to find the sum of the Fibonacci series.

**Python Code:**



```
1 def evenFibSum(limit) :
2     if (limit < 2) :
3         return 0
4
5
6     ef1 = 0
7     ef2 = 2
8     sm= ef1 + ef2
9
10    while (ef2 <= limit) :
11
12
13        ef3 = 4 * ef2 + ef1
14
15        if (ef3 > limit) :
16            break
17
18        ef1 = ef2
19        ef2 = ef3
20        sm = sm + ef2
21
22    return sm
23
24    limit = int(input("enter the number:"))
```

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PS C:\Users\hp\OneDrive\Desktop\python> & 'C:\Program Files\Python39\python.exe' 'c:\Users\hp\.vscode\extensions\ms-python.python-2021.10.1365161279\pythonFiles\lib\python\debugpy\launcher' '53728' '--' 'c:\Users\hp\OneDrive\Desktop\python\assignment20.py'  
enter the number:400  
188  
PS C:\Users\hp\OneDrive\Desktop\python>



### Sample Output(s):

The image shows a Visual Studio Code editor with a Python file named `assignment20.py`. The code defines a function `evenFibSum` that calculates the sum of even Fibonacci numbers up to a given limit. The function uses a while loop to generate Fibonacci numbers and checks if they are even. The main part of the script prompts the user to enter a number and calls the `evenFibSum` function.

```
def evenFibSum(limit) :
    if (limit < 2) :
        return 0

    ef1 = 0
    ef2 = 2
    sm = ef1 + ef2

    while (ef2 <= limit) :

        ef3 = 4 * ef2 + ef1

        if (ef3 > limit) :
            break

        ef1 = ef2
        ef2 = ef3
        sm = sm + ef2

    return sm

limit = int(input("enter the number:"))
```

The terminal window shows the output of the script, indicating that the sum of even Fibonacci numbers for the input 400 is 188.

```
PS C:\Users\hp\OneDrive\Desktop\python> & 'C:\Program Files\Python39\python.exe' 'c:\Users\hp\.vscode\extensions\ms-python.python-2021.10.1365161279\pythonFiles\lib\python\debuggy\launcher' '53728' '--' 'c:\Users\hp\OneDrive\Desktop\python\assignment20.py'
enter the number:400
188
PS C:\Users\hp\OneDrive\Desktop\python>
```