



# Graphic Era

## HILL UNIVERSITY

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UNIVERSITY ROLL NO: 20041299  
STUDENT ID : 2091299

## Python Programming BCA2ndSemester

TBC/PBC202 Python

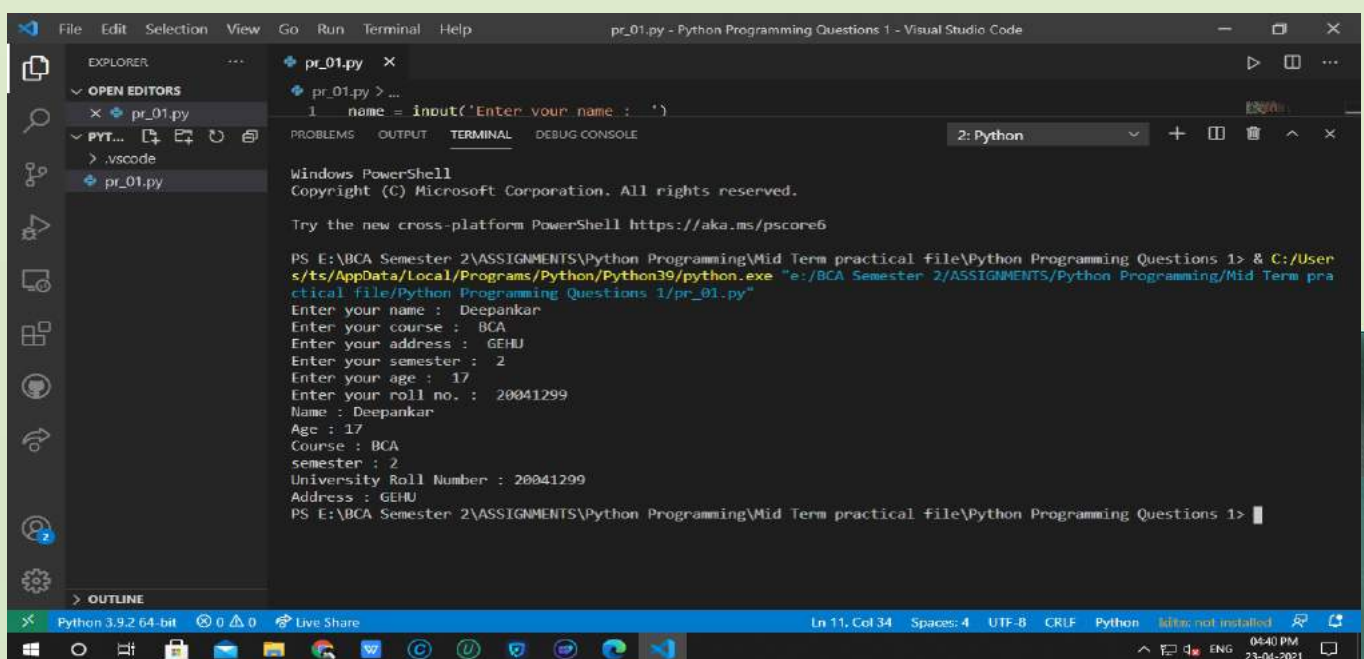
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# Python Programming Questions 1

1. Write a python program to print your name, age, course, semester, address, university roll no.

```
# Deepankar Sharma
# student id : 20041299
# university roll no : 2092014
name = input('Enter your name : ')
course = input('Enter your course : ')
add = input('Enter your address : ')
sem = int(input('Enter your semester : '))
age = int(input('Enter your age : '))
roll =int( input('Enter your roll no. : '))
print('Name :',name)
print('Age :', age)
print('Course :',course)
print('semester :',sem)
print('University Roll Number :',roll)
print('Address :',add)
```



The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a file named 'pr\_01.py'. The Editor pane displays the Python code from the previous block. The Terminal pane at the bottom shows the execution of the program using the command: `PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 1> & C:/Users/s/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 1/pr_01.py"`. The output of the program is displayed in the terminal, showing the user's input for each variable and the corresponding printed values.

```
pr_01.py
1 name = input('Enter your name : ')
2 course = input('Enter your course : ')
3 add = input('Enter your address : ')
4 sem = int(input('Enter your semester : '))
5 age = int(input('Enter your age : '))
6 roll =int( input('Enter your roll no. : '))
7 print('Name :',name)
8 print('Age :', age)
9 print('Course :',course)
10 print('semester :',sem)
11 print('University Roll Number :',roll)
12 print('Address :',add)
```

Windows PowerShell  
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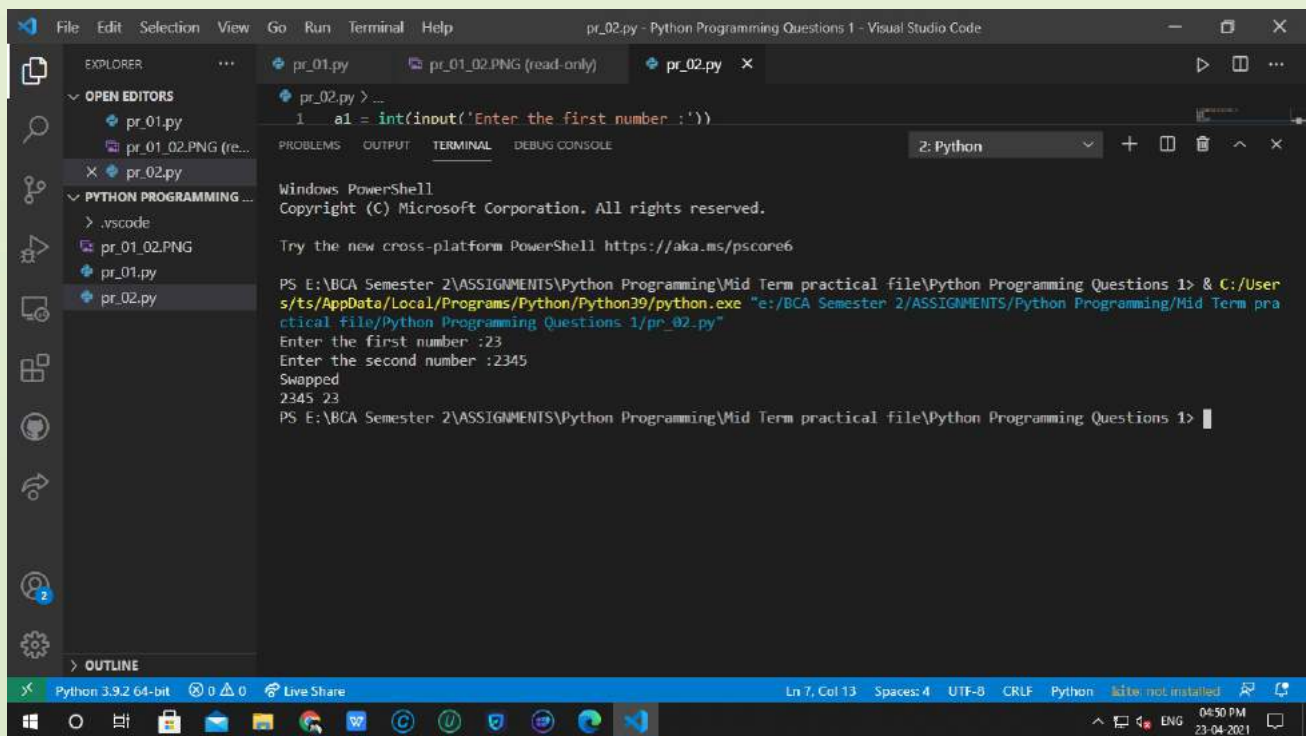
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 1> & C:/Users/s/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 1/pr\_01.py"

Enter your name : Deepankar  
Enter your course : BCA  
Enter your address : GEHU  
Enter your semester : 2  
Enter your age : 17  
Enter your roll no. : 20041299  
Name : Deepankar  
Age : 17  
Course : BCA  
semester : 2  
University Roll Number : 20041299  
Address : GEHU  
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 1>

Python 3.9.2 64-bit 0 0 Live Share Ln 11, Col 34 Spaces: 4 UTF-8 CRUF Python idle, not installed 04:40 PM 23-04-2021

## 2. Write a python program to swap two numbers without using any third variable.

```
# Deepankar Sharma
# student id : 20041299
# university roll no : 2092014
a1 = int(input('Enter the first number :'))
a2 = int(input('Enter the second number :'))
a2=a1+a2
a1=a2-a1
a2=a2-a1
print('Swapped')
print(a1,a2)
```



The screenshot displays the Visual Studio Code interface with the file 'pr\_02.py' open. The code in the editor is as follows:

```
1 a1 = int(input('Enter the first number :'))
```

The terminal window shows the execution of the program using PowerShell. The output is:

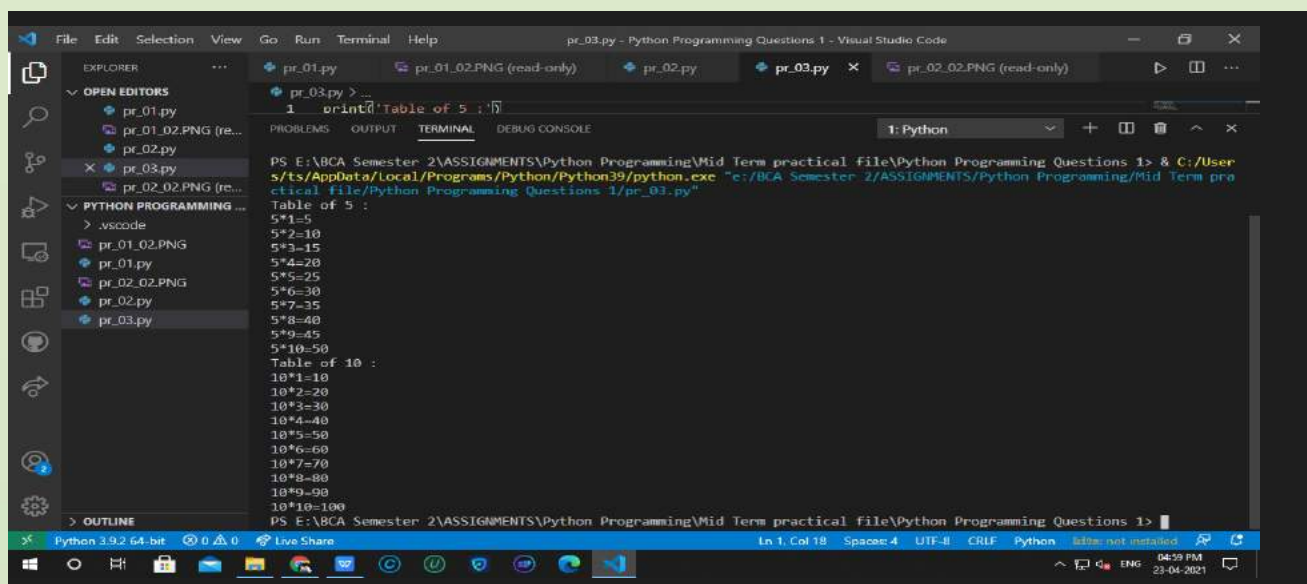
```
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 1> & C:/Users/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 1/pr_02.py"
Enter the first number :23
Enter the second number :2345
Swapped
2345 23
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 1>
```

The status bar at the bottom indicates the Python version is 3.9.2 64-bit, and the file encoding is UTF-8.

### 3. Write a python program to print the tables of 5 and 10.

```
# Deepankar Sharma
# student id : 20041299
# university roll no : 2092014

print('Table of 5 :')
print(f'5*{1}={5*1}')
print(f'5*{2}={5*2}')
print(f'5*{3}={5*3}')
print(f'5*{4}={5*4}')
print(f'5*{5}={5*5}')
print(f'5*{6}={5*6}')
print(f'5*{7}={5*7}')
print(f'5*{8}={5*8}')
print(f'5*{9}={5*9}')
print(f'5*{10}={5*10}')
print('Table of 10 :')
print(f'10*{1}={10*1}')
print(f'10*{2}={10*2}')
print(f'10*{3}={10*3}')
print(f'10*{4}={10*4}')
print(f'10*{5}={10*5}')
print(f'10*{6}={10*6}')
print(f'10*{7}={10*7}')
print(f'10*{8}={10*8}')
print(f'10*{9}={10*9}')
print(f'10*{10}={10*10}')
```



The screenshot shows the Visual Studio Code interface with the file explorer on the left, the editor window in the center, and the terminal at the bottom. The file explorer shows a project named 'Python Programming Questions 1' with files pr\_01.py, pr\_02.py, pr\_03.py, pr\_01\_02.PNG, pr\_02\_02.PNG, and pr\_03\_02.PNG. The editor window shows the code for pr\_03.py, which prints the multiplication tables for 5 and 10. The terminal output shows the execution of the program, displaying the tables for 5 and 10.

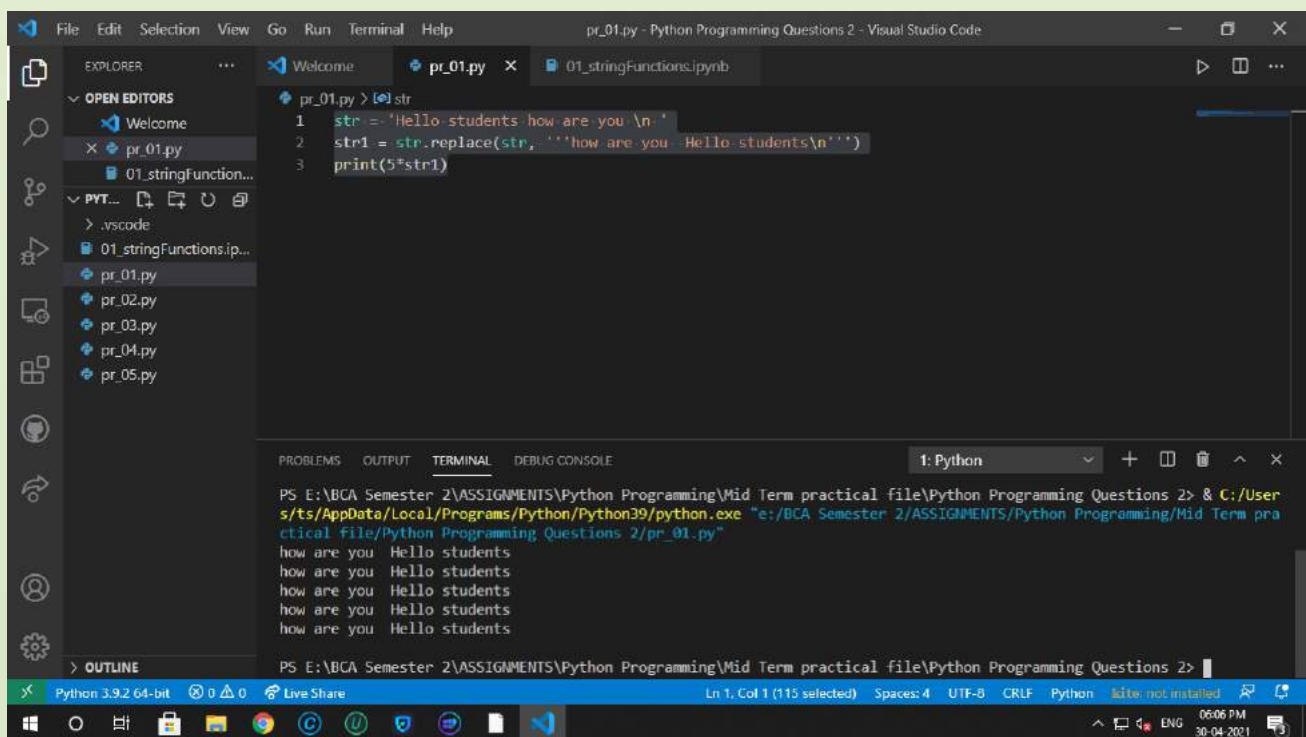
```
pr_03.py - Python Programming Questions 1 - Visual Studio Code
pr_01.py pr_01_02.PNG (read-only) pr_02.py pr_03.py pr_02_02.PNG (read-only)
pr_03.py
1 print('Table of 5 :')
2 for i in range(1, 11):
3     print(f'5*{i}={5*i}')
4
5 print('Table of 10 :')
6 for i in range(1, 11):
7     print(f'10*{i}={10*i}')
8
9
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 1> & C:/User
5/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term pra
ctical file/Python Programming Questions 1/pr_03.py"
Table of 5 :
5*1=5
5*2=10
5*3=15
5*4=20
5*5=25
5*6=30
5*7=35
5*8=40
5*9=45
5*10=50
Table of 10 :
10*1=10
10*2=20
10*3=30
10*4=40
10*5=50
10*6=60
10*7=70
10*8=80
10*9=90
10*10=100
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 1>
```



# Python Programming Questions 2

1. Write a python program to print to print "hello students how are you" as "how are you hello students " five times without using print statement 5 times.

```
str = 'Hello students how are you \n '  
str1 = str.replace(str, '"how are you Hello students\n"')  
print(5*str1)
```



The screenshot shows the Visual Studio Code interface. The Explorer panel on the left lists files: Welcome, pr\_01.py, 01\_stringFunction..., .vscode, 01\_stringFunctions.ip..., pr\_01.py, pr\_02.py, pr\_03.py, pr\_04.py, and pr\_05.py. The Editor panel displays the code for pr\_01.py:

```
1 str = 'Hello students how are you \n '  
2 str1 = str.replace(str, '"how are you Hello students\n"')  
3 print(5*str1)
```

The TERMINAL panel at the bottom shows the command prompt output:

```
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 2> & C:/Users/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 2/pr_01.py"  
how are you Hello students  
how are you Hello students  
how are you Hello students  
how are you Hello students  
how are you Hello students
```

The status bar at the bottom indicates Python 3.9.2 64-bit, UTF-8 encoding, and CRLF line endings.

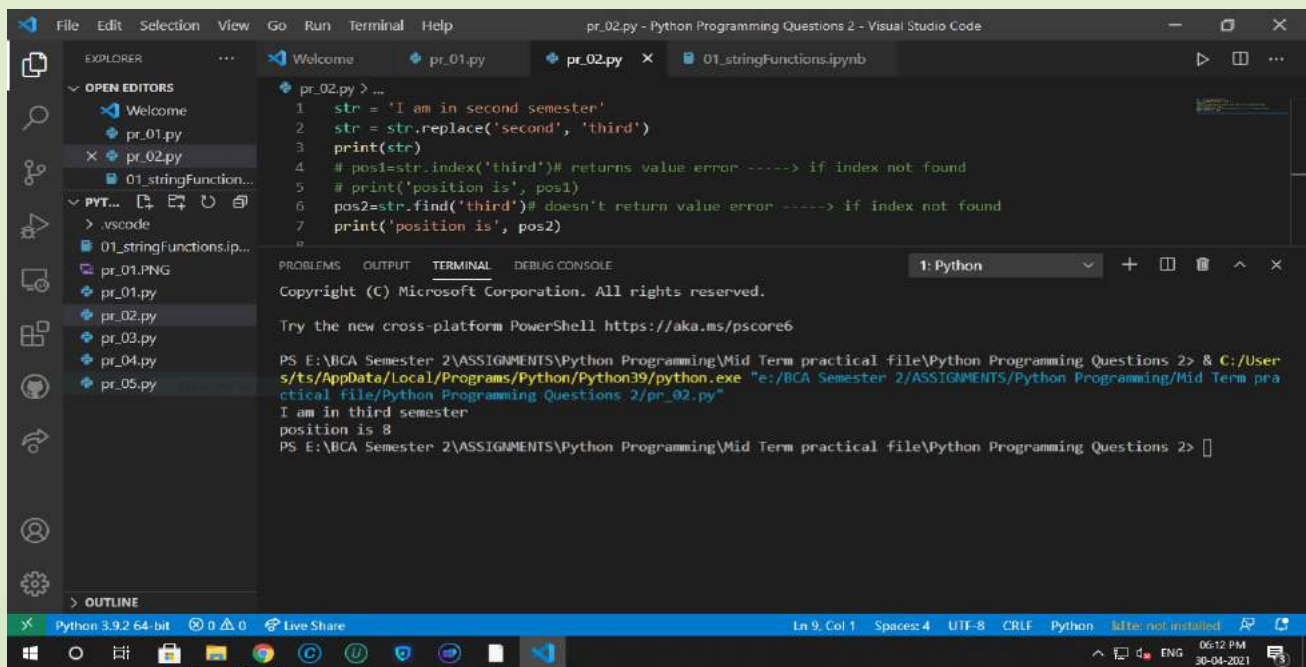
2. Assume any string which contains 'second semester' , replace it with 'third semester'. Also print the position of third semester.

```
str = 'I am in second semester'

str = str.replace('second', 'third')

print(str)

# pos1=str.index('third')# returns value error -----> if index not found
# print('position is', pos1)
pos2=str.find('third')# doesn't return value error -----> if index not found
print('position is', pos2)
```



The screenshot shows the Visual Studio Code interface with a file named `pr_02.py` open. The code in the editor is as follows:

```
1 str = 'I am in second semester'
2 str = str.replace('second', 'third')
3 print(str)
4 # pos1=str.index('third')# returns value error -----> if index not found
5 # print('position is', pos1)
6 pos2=str.find('third')# doesn't return value error -----> if index not found
7 print('position is', pos2)
```

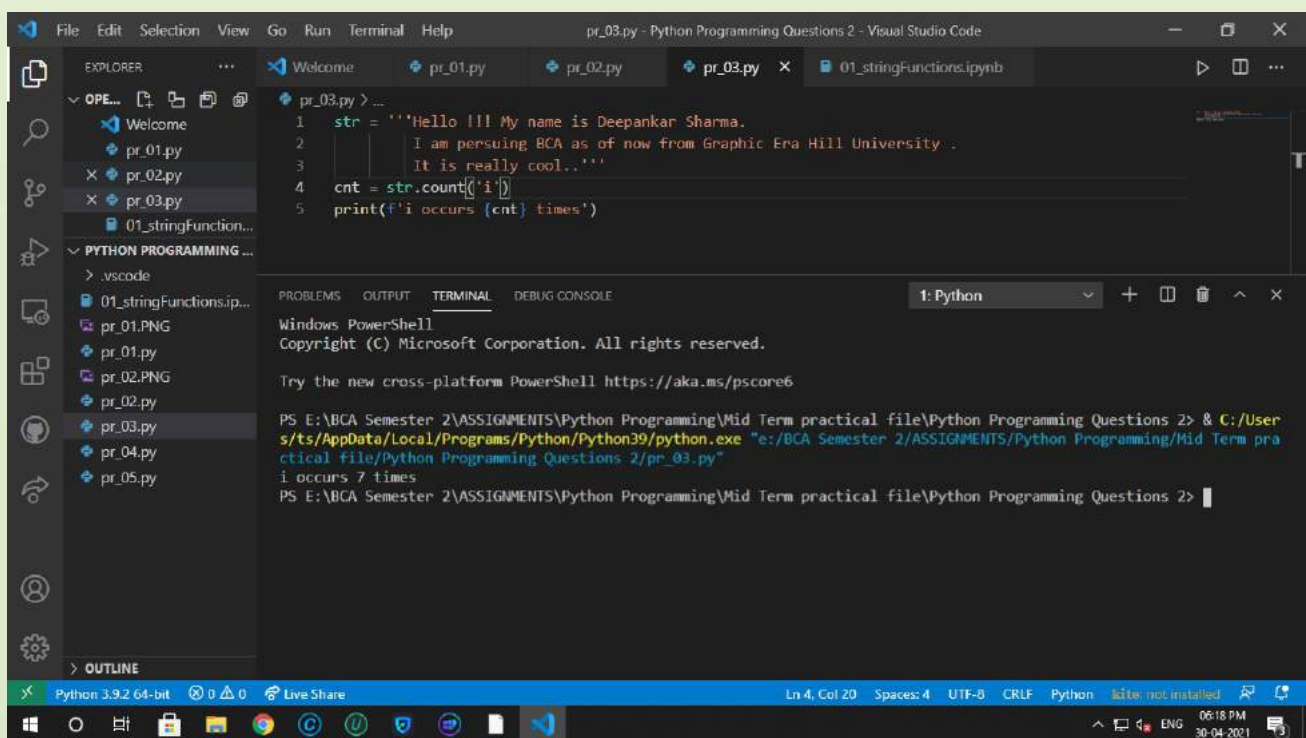
The terminal output shows the execution of the script:

```
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 2> & C:/Users/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 2/pr_02.py"
I am in third semester
position is 8
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 2>
```

The status bar at the bottom indicates the file is encoded in UTF-8, has 4 spaces, and is using the Python interpreter.

3. Take any string which contains more than two lines about you. Now count number of times 'i' occurs in the string.

```
str = '''Hello !!! My name is Deepankar Sharma.  
      I am pursuing BCA as of now from Graphic Era Hill University .  
      It is really cool..'''  
cnt = str.count('i')  
print(f'i occurs {cnt} times')
```



The screenshot displays the Visual Studio Code interface. The Explorer panel on the left shows a project structure with files like pr\_01.py, pr\_02.py, pr\_03.py, and 01\_stringFunctions.ipynb. The main editor window shows the Python script from the previous block. The Output panel at the bottom shows the execution of the script, which prints "i occurs 7 times". The status bar at the bottom indicates the Python version is 3.9.2 64-bit and the file encoding is UTF-8.

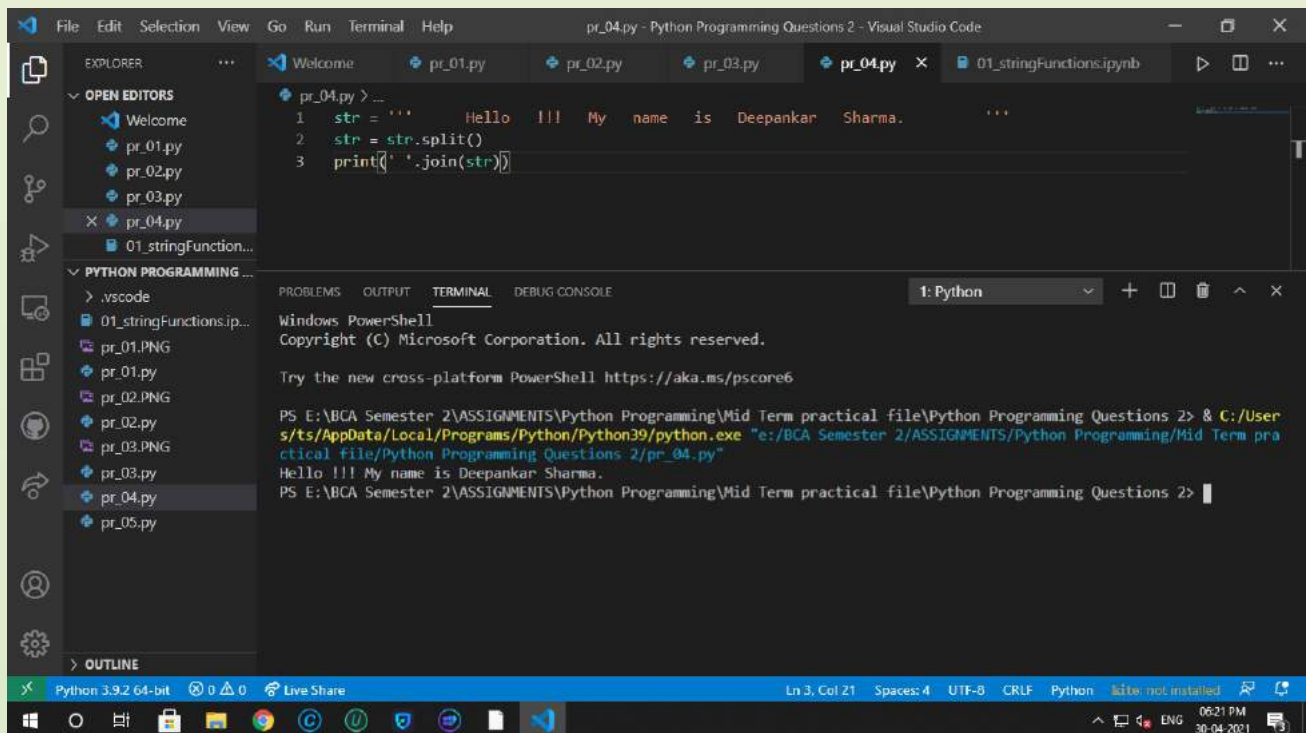
```
pr_03.py > ...  
1 str = '''Hello !!! My name is Deepankar Sharma.  
2     I am pursuing BCA as of now from Graphic Era Hill University .  
3     It is really cool..'''  
4 cnt = str.count('i')  
5 print(f'i occurs {cnt} times')
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE  
1: Python  
Windows PowerShell  
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PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 2> & C:/Users/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 2/pr\_03.py"  
i occurs 7 times  
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 2> |

Python 3.9.2 64-bit 0 0 0 Live Share Ln 4, Col 20 Spaces: 4 UTF-8 CRLF Python file not installed 06:18 PM 30-04-2021

4. Consider any long string . Now replace the space between two words with the tab.

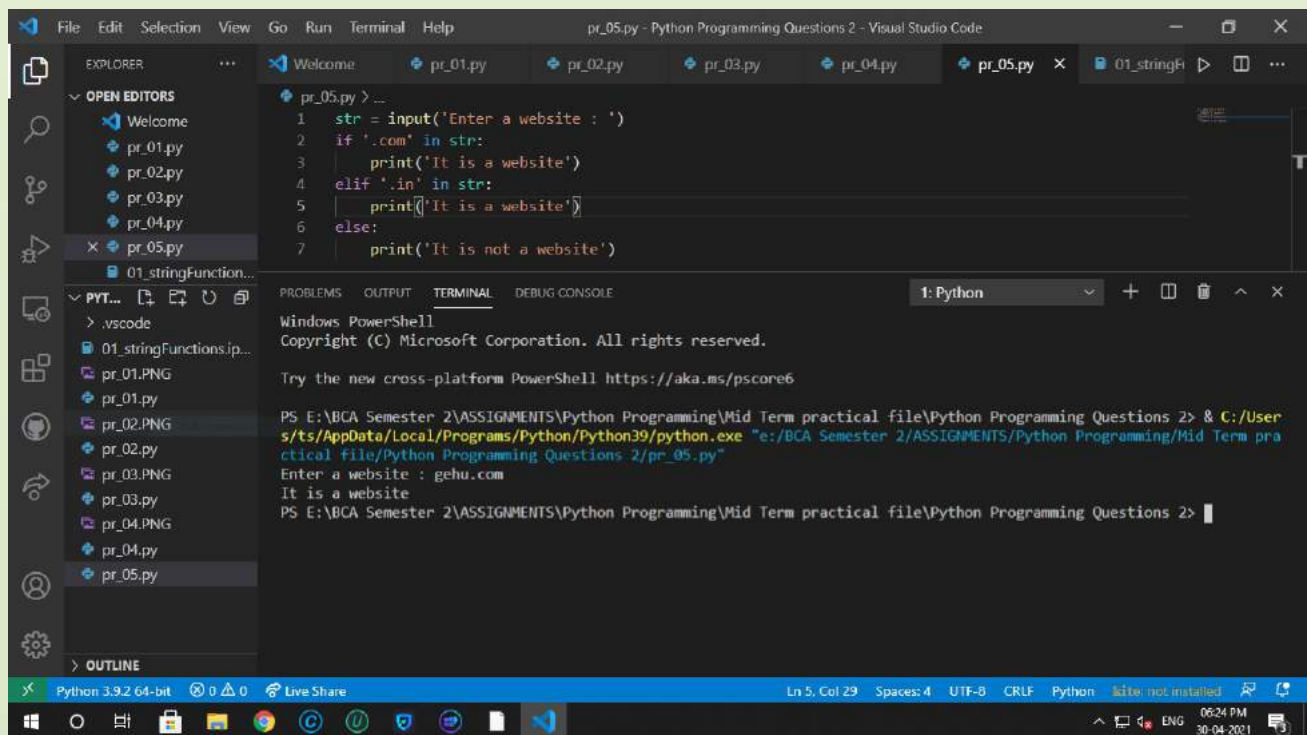
```
str = '    Hello    !!!    My    name    is    Deepankar    Sharma.    '  
str = str.split()  
print(' '.join(str))
```





5. Write a python program which can identify and print output whether a given string is a website name or not.

```
str = input('Enter a website : ')
if '.com' in str:
    print('It is a website')
elif '.in' in str:
    print('It is a website')
else:
    print('It is not a website')
```



# Python Programming Questions 3

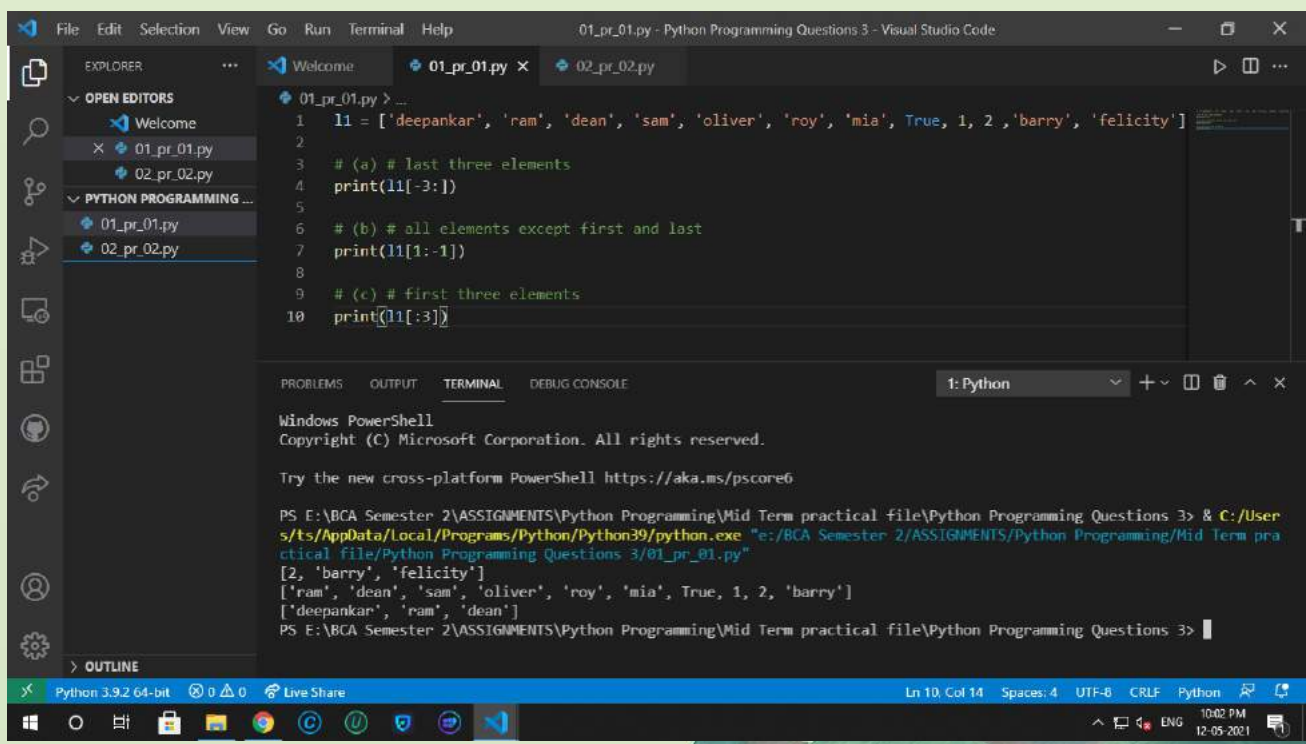
1. Take any list and print it in following manner.
  - a) Print only last three elements.
  - b) Print all values except the first and last value.
  - c) Print only first three elements.

```
l1 = ['deepankar', 'ram', 'dean', 'sam', 'oliver', 'roy', 'mia', True, 1, 2, 'barry', 'felicity']
```

```
# (a) # last three elements  
print(l1[-3:])
```

```
# (b) # all elements except first and last  
print(l1[1:-1])
```

```
# (c) # first three elements  
print(l1[:3])
```



The screenshot shows the Visual Studio Code interface with a Python file named '01\_pr\_01.py' open. The code in the editor is as follows:

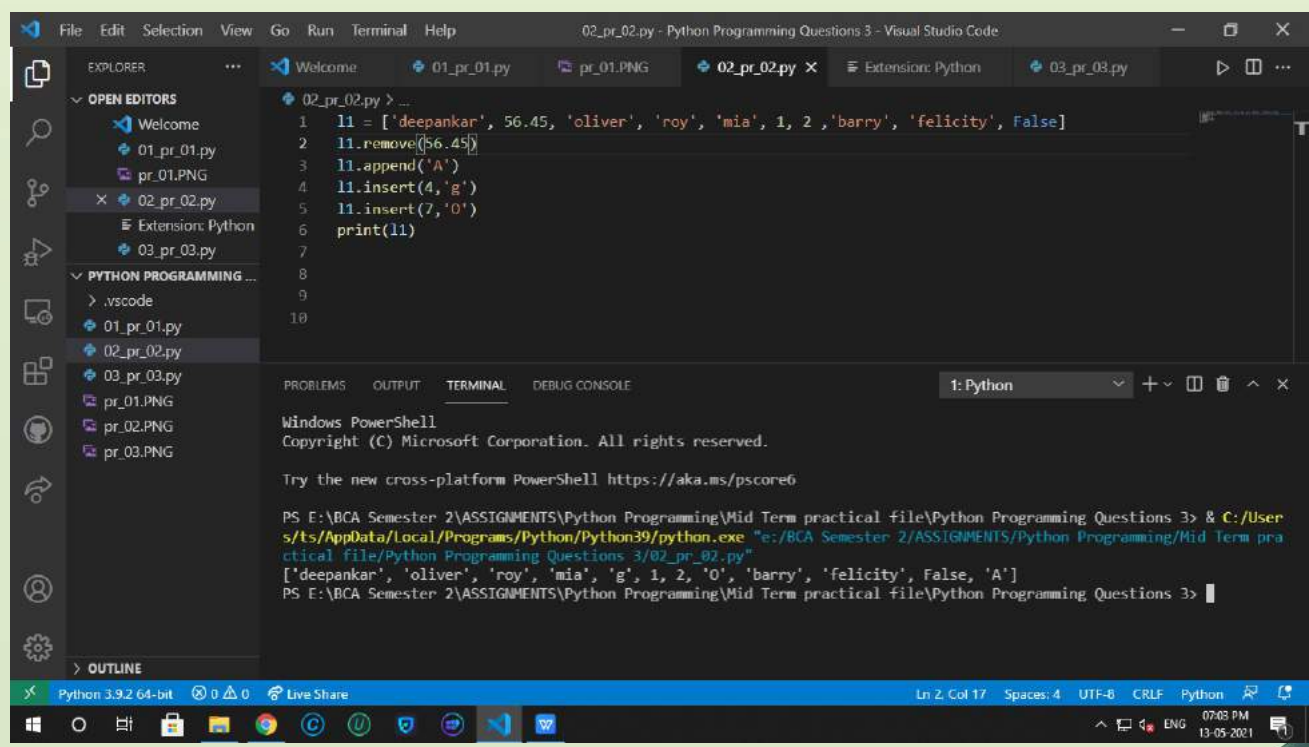
```
1 l1 = ['deepankar', 'ram', 'dean', 'sam', 'oliver', 'roy', 'mia', True, 1, 2, 'barry', 'felicity']  
2  
3 # (a) # last three elements  
4 print(l1[-3:])  
5  
6 # (b) # all elements except first and last  
7 print(l1[1:-1])  
8  
9 # (c) # first three elements  
10 print(l1[:3])
```

The terminal window at the bottom shows the output of the code execution:

```
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 3> & C:/Users/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 3/01_pr_01.py"  
[2, 'barry', 'felicity']  
['ram', 'dean', 'sam', 'oliver', 'roy', 'mia', True, 1, 2, 'barry']  
['deepankar', 'ram', 'dean']  
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 3>
```

2. In a python program, consider any list containing integer, decimal and string values .  
Now delete all decimal values using any list delete functions and then add three character values in it.

```
l1 = ['deepankar', 56.45, 'oliver', 'roy', 'mia', 1, 2, 'barry', 'felicity', False]
l1.remove(56.45)
l1.append('A')
l1.insert(4, 'g')
l1.insert(7, '0')
print(l1)
```



The screenshot shows the Visual Studio Code interface. The Explorer panel on the left lists files: 01\_pr\_01.py, pr\_01.PNG, 02\_pr\_02.py (selected), Extension: Python, and 03\_pr\_03.py. The Python PROGRAMMING section shows .vscode, 01\_pr\_01.py, 02\_pr\_02.py (selected), 03\_pr\_03.py, pr\_01.PNG, pr\_02.PNG, and pr\_03.PNG. The Outline panel is empty. The main editor displays the code from the previous block. The TERMINAL panel at the bottom shows the execution of the program, resulting in the list: ['deepankar', 'oliver', 'roy', 'mia', 'g', 1, 2, '0', 'barry', 'felicity', False, 'A'].

```
02_pr_02.py > ...
1  l1 = ['deepankar', 56.45, 'oliver', 'roy', 'mia', 1, 2, 'barry', 'felicity', False]
2  l1.remove(56.45)
3  l1.append('A')
4  l1.insert(4, 'g')
5  l1.insert(7, '0')
6  print(l1)
7
8
9
10
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE 1: Python

Windows PowerShell  
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PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 3> & C:/Users/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 3/02\_pr\_02.py"

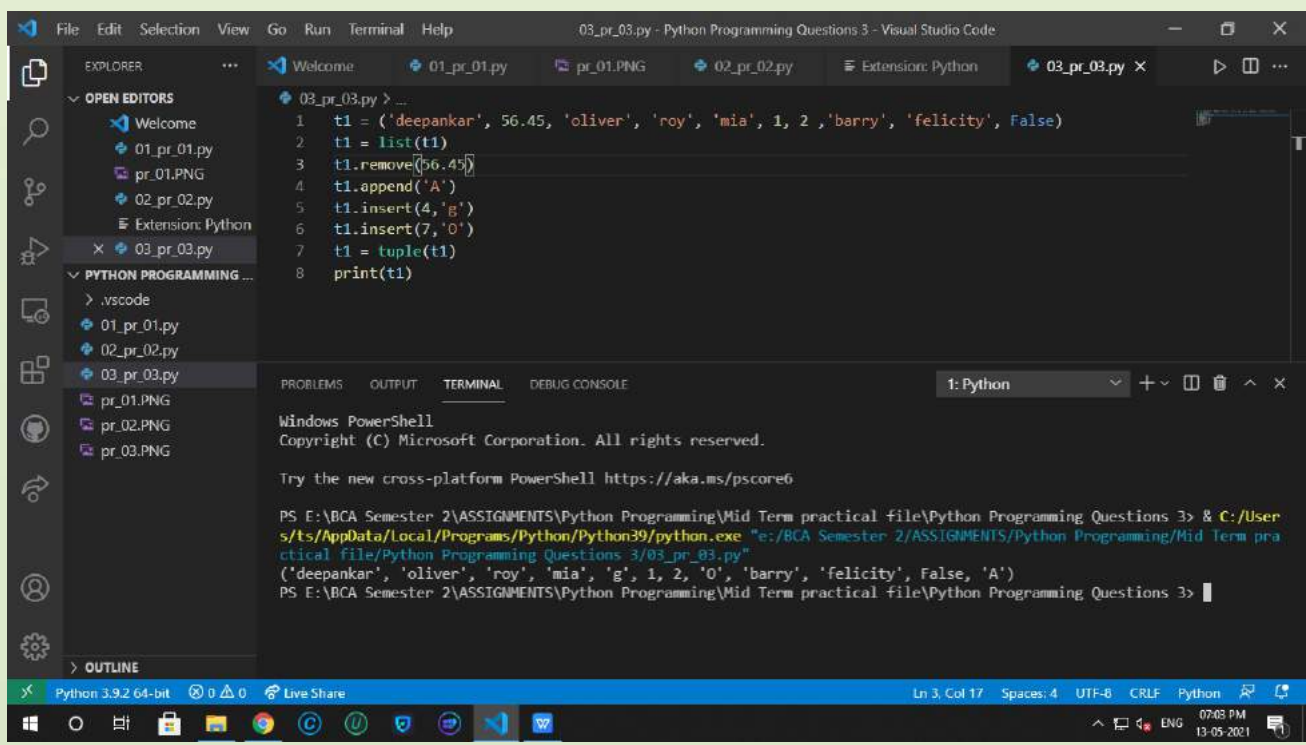
['deepankar', 'oliver', 'roy', 'mia', 'g', 1, 2, '0', 'barry', 'felicity', False, 'A']

PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 3> |

Python 3.9.2 64-bit 0 0 0 Live Share Ln 2, Col 17 Spaces: 4 UTF-8 CRLF Python 07:03 PM 13-05-2021

3. Consider any tuple containing integer, decimal and string values . Now delete all decimal values and then add three character values in it.

```
t1 = ('deepankar', 56.45, 'oliver', 'roy', 'mia', 1, 2, 'barry', 'felicity', False)
t1 = list(t1)
t1.remove(56.45)
t1.append('A')
t1.insert(4, 'g')
t1.insert(7, '0')
t1 = tuple(t1)
print(t1)
```



```
03_pr_03.py > ...
1 t1 = ('deepankar', 56.45, 'oliver', 'roy', 'mia', 1, 2, 'barry', 'felicity', False)
2 t1 = list(t1)
3 t1.remove(56.45)
4 t1.append('A')
5 t1.insert(4, 'g')
6 t1.insert(7, '0')
7 t1 = tuple(t1)
8 print(t1)

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
1: Python
Windows PowerShell
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PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 3> & C:/User
s/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term pra
ctical file/Python Programming Questions 3/03_pr_03.py"
('deepankar', 'oliver', 'roy', 'mia', 'g', 1, 2, '0', 'barry', 'felicity', False, 'A')
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 3> |
```

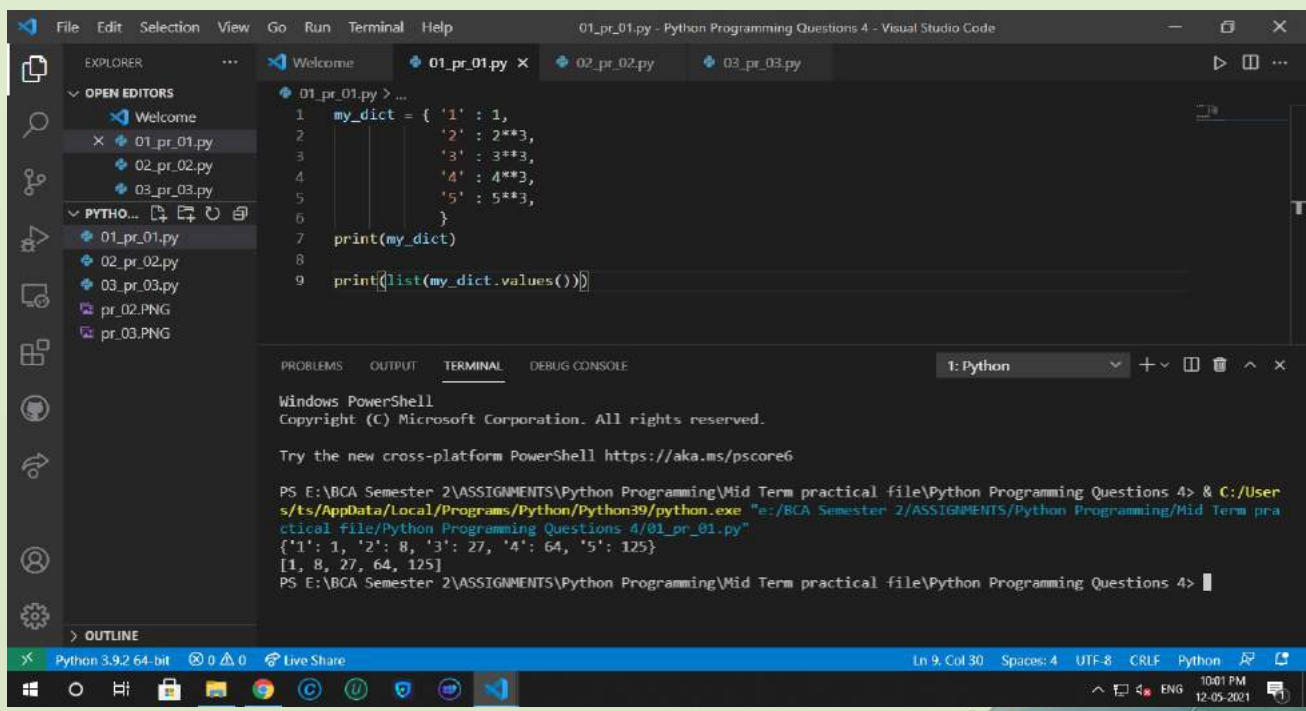


# Python Programming Questions 4

1. Make a dictionary in which the keys are the numbers and the values are their cubes. Now first print the dictionary and then print the values of the dictionary.

```
my_dict = { '1' : 1,
            '2' : 2**3,
            '3' : 3**3,
            '4' : 4**3,
            '5' : 5**3,
            }
print(my_dict)

print(list(my_dict.values()))
```



The screenshot shows the Visual Studio Code interface with a file named '01\_pr\_01.py' open. The code in the editor is as follows:

```
1 my_dict = { '1' : 1,
2             '2' : 2**3,
3             '3' : 3**3,
4             '4' : 4**3,
5             '5' : 5**3,
6             }
7 print(my_dict)
8
9 print(list(my_dict.values()))
```

The terminal window at the bottom shows the execution of the code using Python 3.9.2. The output is:

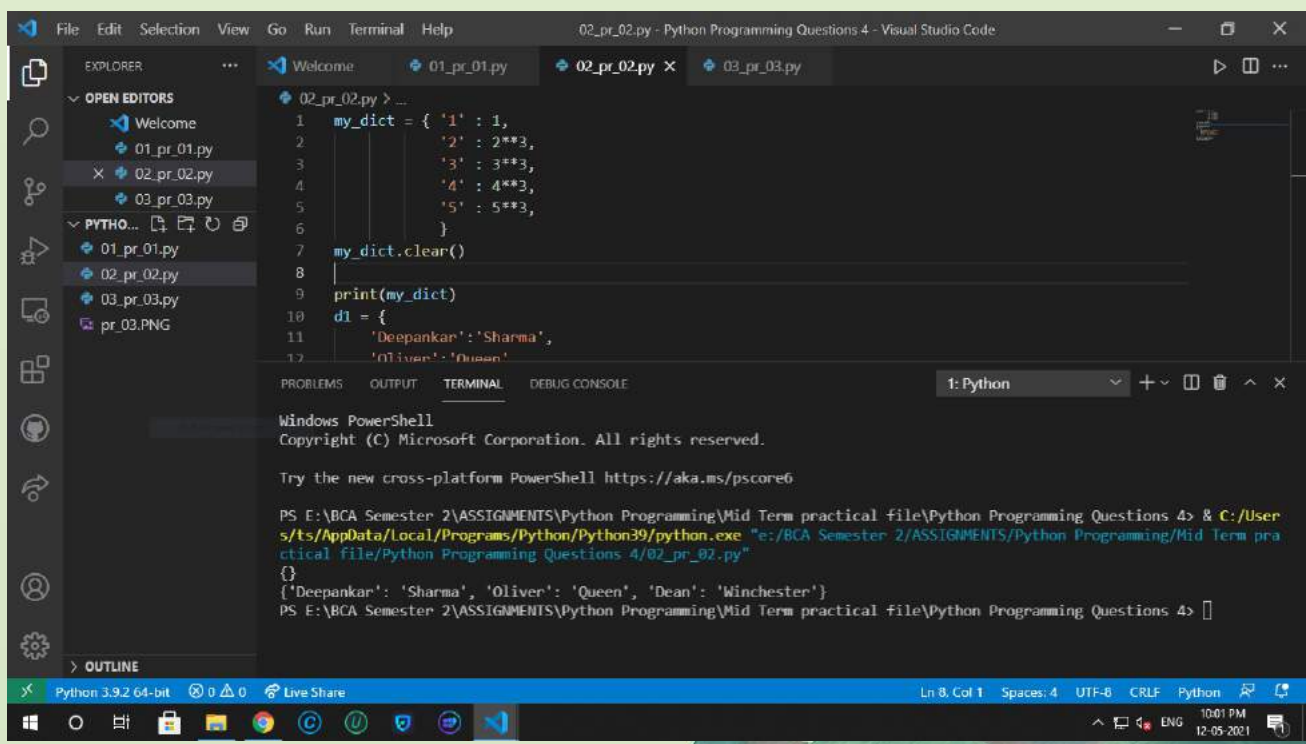
```
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 4> & C:/Users/.../python.exe "E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 4\01_pr_01.py"
{'1': 1, '2': 8, '3': 27, '4': 64, '5': 125}
[1, 8, 27, 64, 125]
```

The status bar at the bottom indicates the file is encoded in UTF-8 with CRLF line endings, and the current cursor position is at line 9, column 30.

2. Consider an existing dictionary with some existing values. First empty the dictionary and then add some new key-value pairs to it.

```
my_dict = { '1' : 1,
            '2' : 2**3,
            '3' : 3**3,
            '4' : 4**3,
            '5' : 5**3,
            }
my_dict.clear()

print(my_dict)
d1 = {
    'Deepankar':'Sharma',
    'Oliver':'Queen',
    'Dean':'Winchester'
}
my_dict.update(d1)
print(my_dict)
```



```
02_pr_02.py - Python Programming Questions 4 - Visual Studio Code
1 my_dict = { '1' : 1,
2             '2' : 2**3,
3             '3' : 3**3,
4             '4' : 4**3,
5             '5' : 5**3,
6             }
7 my_dict.clear()
8
9 print(my_dict)
10 d1 = {
11     'Deepankar':'Sharma',
12     'Oliver':'Queen'
13 }
14 my_dict.update(d1)
15 print(my_dict)
```

TERMINAL

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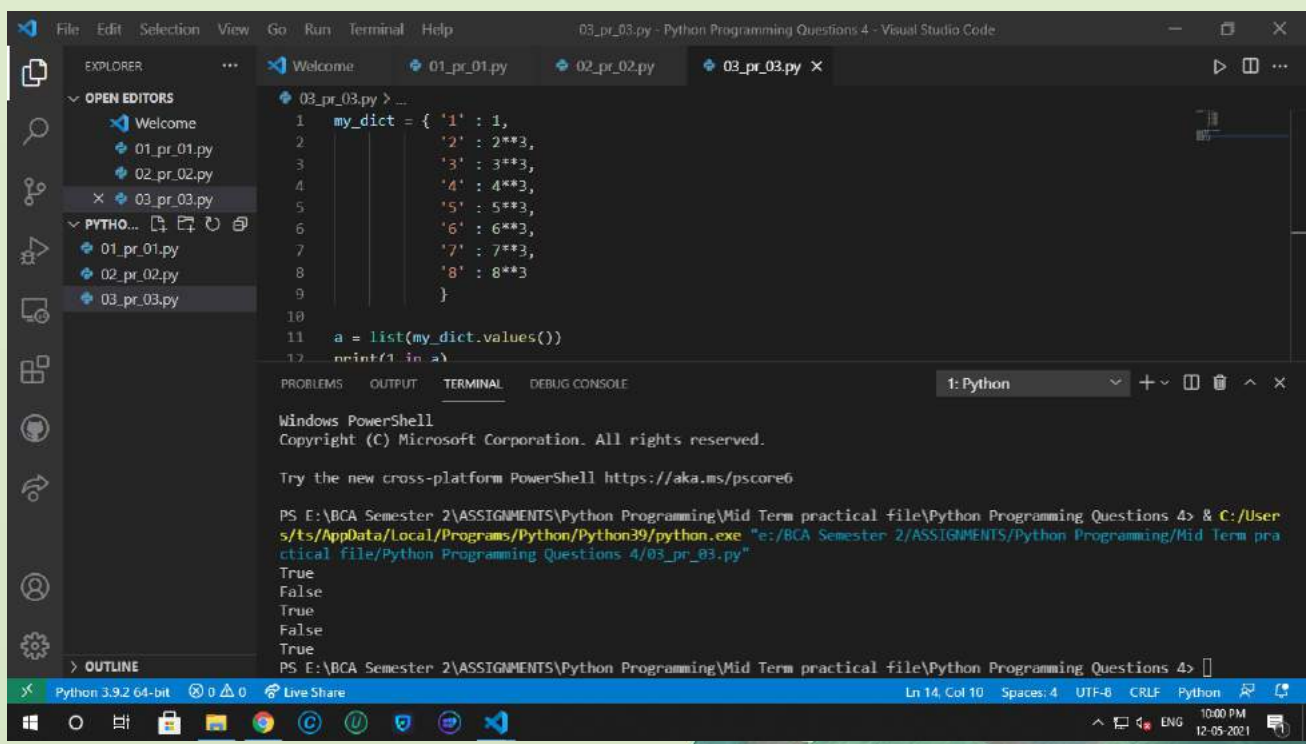
```
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 4> & C:/Users/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 4/02_pr_02.py"
{}
{'Deepankar': 'Sharma', 'Oliver': 'Queen', 'Dean': 'Winchester'}
```

PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 4>

3. Write a python program to check any 5 values that is present in an existing dictionary or not.

```
my_dict = { '1' : 1,
            '2' : 2**3,
            '3' : 3**3,
            '4' : 4**3,
            '5' : 5**3,
            '6' : 6**3,
            '7' : 7**3,
            '8' : 8**3
            }

a = list(my_dict.values())
print(1 in a)
print(6 in a)
print(125 in a)
print(455 in a)
print(64 in a)
```



The screenshot shows the Visual Studio Code interface with a Python file named '03\_pr\_03.py' open. The code in the editor is as follows:

```
1 my_dict = { '1' : 1,
2             '2' : 2**3,
3             '3' : 3**3,
4             '4' : 4**3,
5             '5' : 5**3,
6             '6' : 6**3,
7             '7' : 7**3,
8             '8' : 8**3
9             }
10
11 a = list(my_dict.values())
12 print(1 in a)
```

The terminal window at the bottom shows the output of the program:

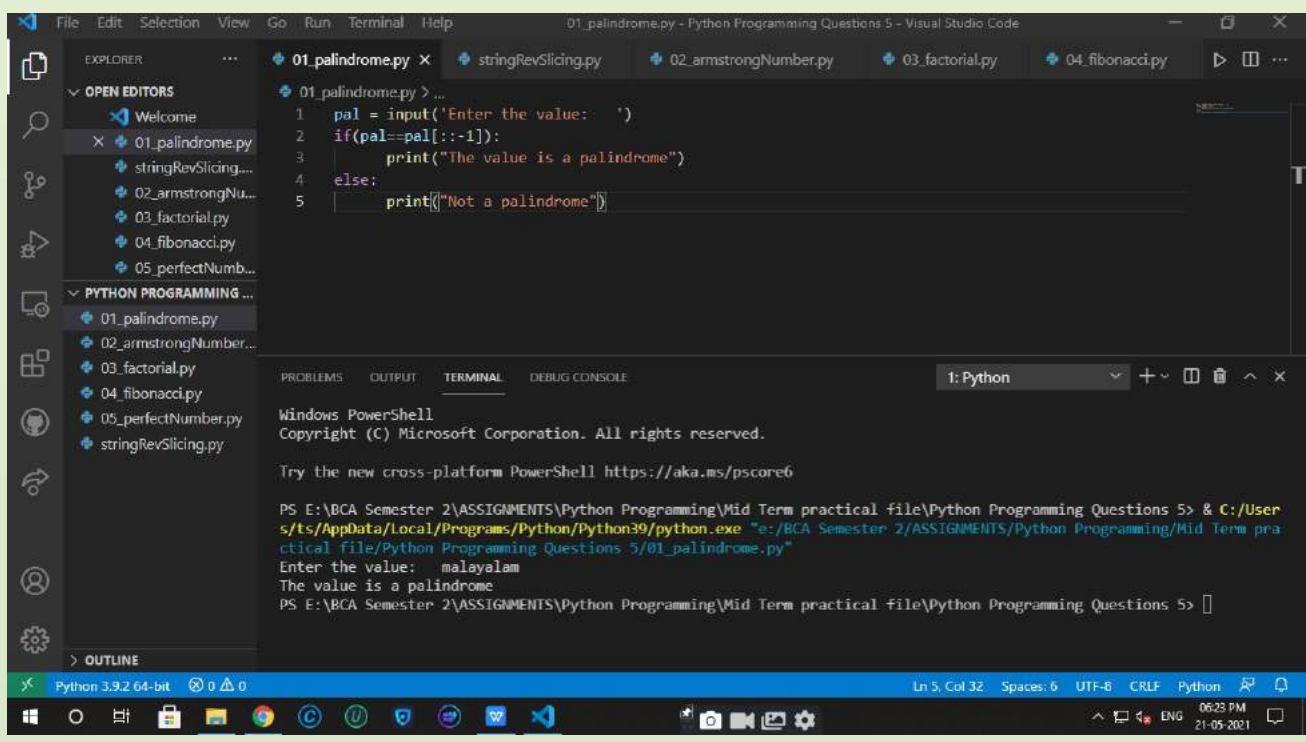
```
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 4> python "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 4/03_pr_03.py"
True
False
True
False
True
```

The status bar at the bottom indicates the file is at Line 14, Column 10, using UTF-8 encoding with CRLF line endings. The system clock shows 10:00 PM on 12-05-2021.

# Python Programming Questions 5

1. Write a python program to check if the value entered by the user is a palindrome or not.

```
pal = input('Enter the value: ')
if(pal==pal[::-1]):
    print("The value is a palindrome")
else:
    print("Not a palindrome")
```



The screenshot displays the Visual Studio Code interface. The Explorer pane on the left shows a project named 'Python Programming Questions 5' with several Python files. The file '01\_palindrome.py' is open in the editor. The code in the editor is as follows:

```
1 pal = input('Enter the value: ')
2 if(pal==pal[::-1]):
3     print("The value is a palindrome")
4 else:
5     print("Not a palindrome")
```

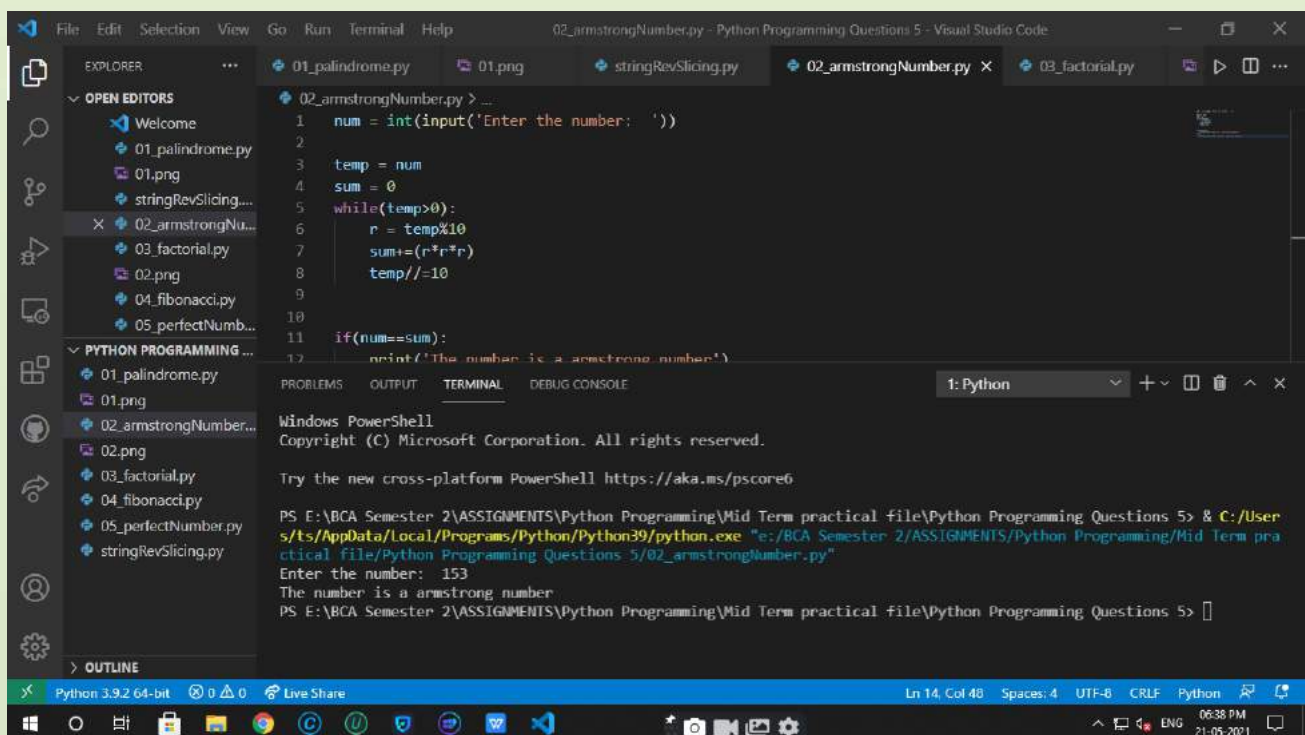
The TERMINAL pane at the bottom shows the execution of the program. It displays the Windows PowerShell prompt, the command to run the Python file, and the user input 'malayalam'. The output of the program is 'The value is a palindrome'.



2. Write a python program to check if the value entered by the user is a Armstrong number or not.

```
num = int(input('Enter the number: '))

temp = num
sum = 0
while(temp>0):
    r = temp%10
    sum+=(r*r*r)
    temp//=10
if(num==sum):
    print('The number is a armstrong number')
else:
    print('The number is not a armstrong number')
```



The screenshot displays the Visual Studio Code interface. The Explorer panel on the left shows a project structure with files like 01\_palindrome.py, 01.png, stringRevSlicing.py, 02\_armstrongNumber.py, 03\_factorial.py, 02.png, 04\_fibonacci.py, 05\_perfectNumber.py, and stringRevSlicing.py. The main editor window shows the code for 02\_armstrongNumber.py, which is the same code as shown in the previous block. The TERMINAL panel at the bottom shows the execution of the program in a Windows PowerShell environment. The user enters the number 153, and the program outputs 'The number is a armstrong number'.

```
num = int(input('Enter the number: '))

temp = num
sum = 0
while(temp>0):
    r = temp%10
    sum+=(r*r*r)
    temp//=10
if(num==sum):
    print('The number is a armstrong number')
else:
    print('The number is not a armstrong number')
```

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

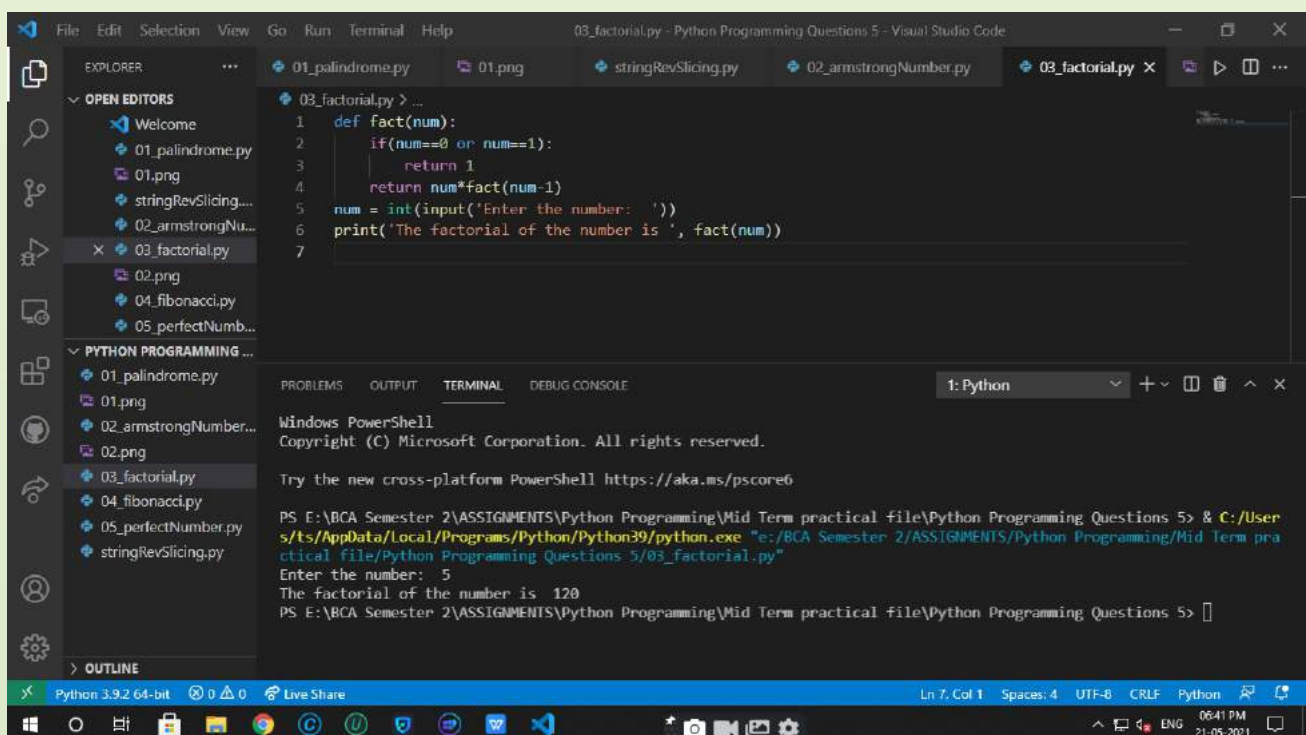
Try the new cross-platform PowerShell <https://aka.ms/pscore6>

PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 5> & C:/Users/ts/AppData/Local/Programs/Python/Python39/python.exe "e:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 5\02\_armstrongNumber.py"

Enter the number: 153  
The number is a armstrong number  
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 5>

3. Consider a number given input by the user.  
Now find the factorial of the number.

```
def fact(num):  
    if(num==0 or num==1):  
        return 1  
    return num*fact(num-1)  
num = int(input('Enter the number: '))  
print('The factorial of the number is ', fact(num))
```



The screenshot displays the Visual Studio Code interface. The Explorer panel on the left shows a project named 'Python Programming Questions 5' with several files, including '03\_factorial.py'. The main editor window shows the code for '03\_factorial.py', which is identical to the code block above. Below the editor, the TERMINAL panel is active, showing the output of running the program. The terminal text is as follows:

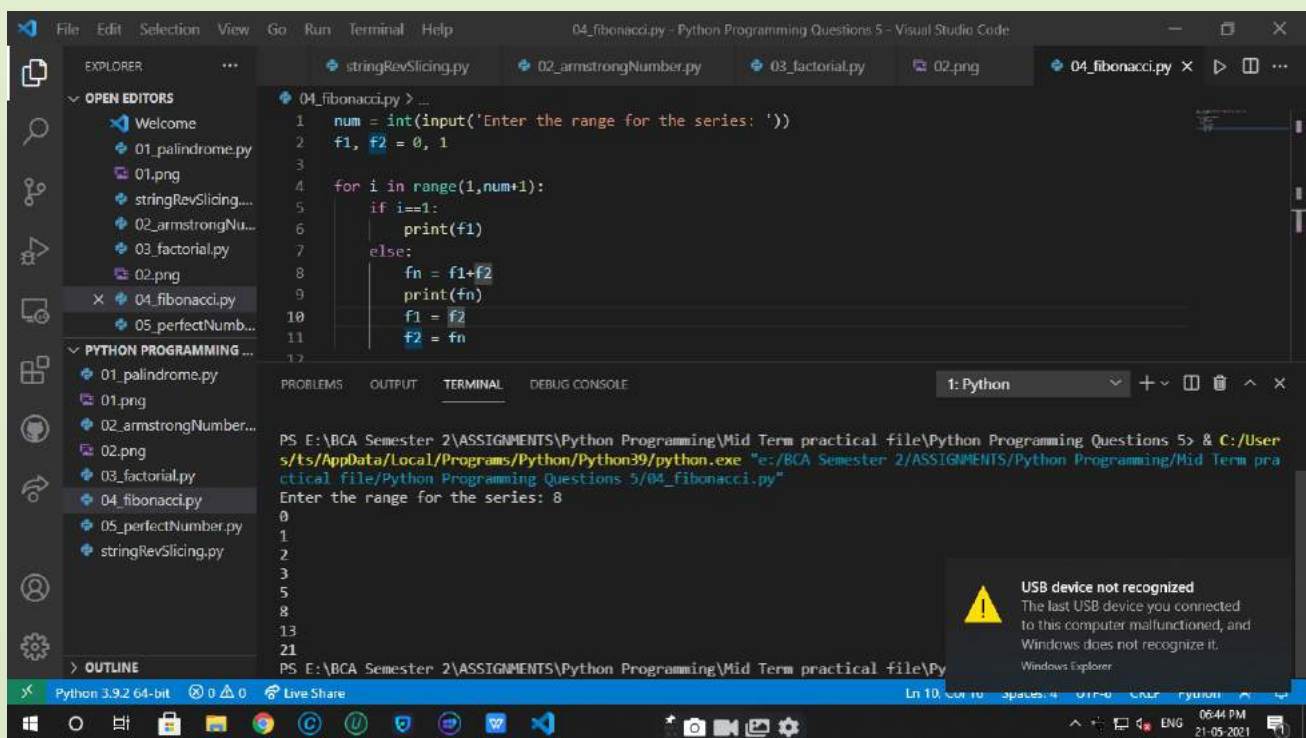
```
Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.  
  
Try the new cross-platform PowerShell https://aka.ms/pscore6  
  
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 5> & C:/Users/.../AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 5/03_factorial.py"  
Enter the number: 5  
The factorial of the number is 120  
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 5>
```

The status bar at the bottom indicates the file is '03\_factorial.py', the Python version is 'Python 3.9.2 64-bit', and the encoding is 'UTF-8'.

#### 4. Write a python program to print the fibonacci sequence upto the range given by the user.

```
num = int(input('Enter the range for the series: '))
f1, f2 = 0, 1

for i in range(1,num+1):
    if i==1:
        print(f1)
    else:
        fn = f1+f2
        print(fn)
        f1 = f2
        f2 = fn
```



The screenshot displays the Visual Studio Code interface with the file `04_fibonacci.py` open. The code in the editor is as follows:

```
1 num = int(input('Enter the range for the series: '))
2 f1, f2 = 0, 1
3
4 for i in range(1,num+1):
5     if i==1:
6         print(f1)
7     else:
8         fn = f1+f2
9         print(fn)
10        f1 = f2
11        f2 = fn
12
```

The terminal output shows the program execution:

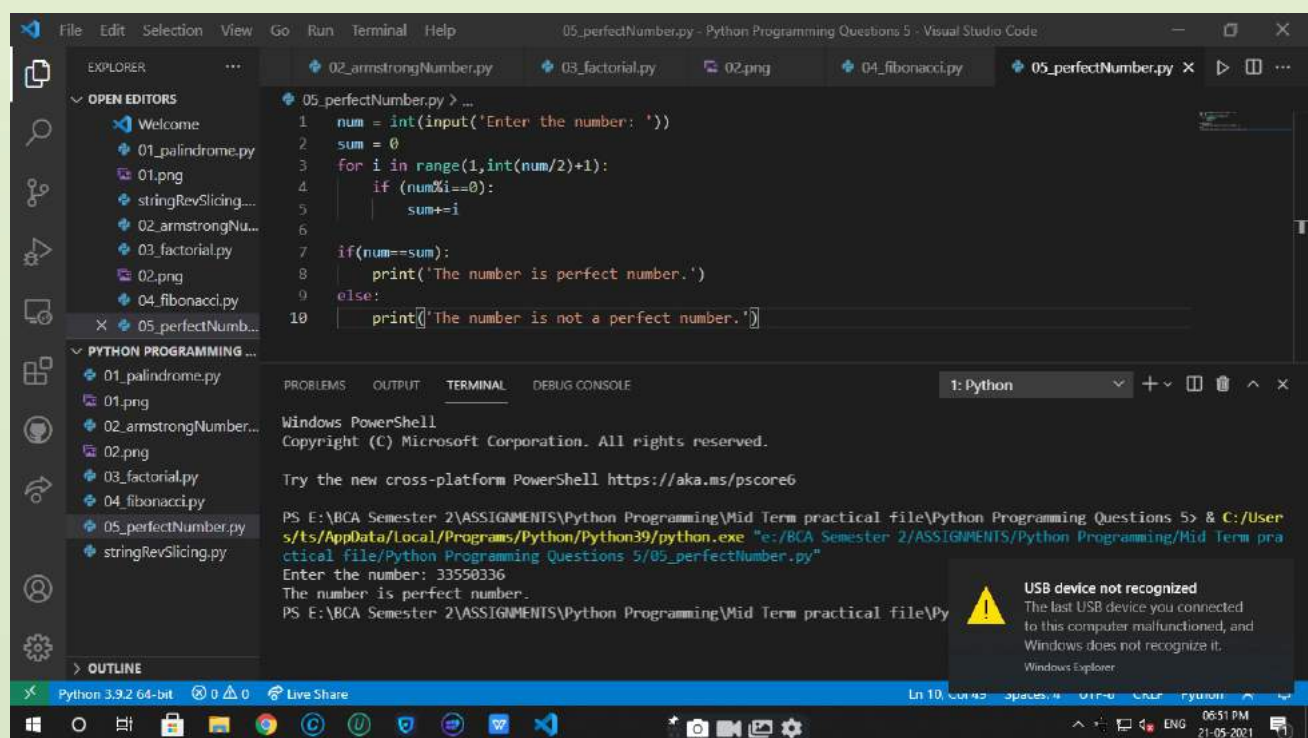
```
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 5> & C:/Users/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 5/04_Fibonacci.py"
Enter the range for the series: 8
0
1
1
2
3
5
8
13
21
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Py
```

A warning message is displayed in the bottom right corner: "USB device not recognized. The last USB device you connected to this computer malfunctioned, and Windows does not recognize it. Windows Explorer".

5. Write a python program to check whether the number entered by the user is a perfect number or not.

```
num = int(input('Enter the number: '))
sum = 0
for i in range(1,int(num/2)+1):
    if (num%i==0):
        sum+=i

if(num==sum):
    print('The number is perfect number.')
else:
    print('The number is not a perfect number.')
```



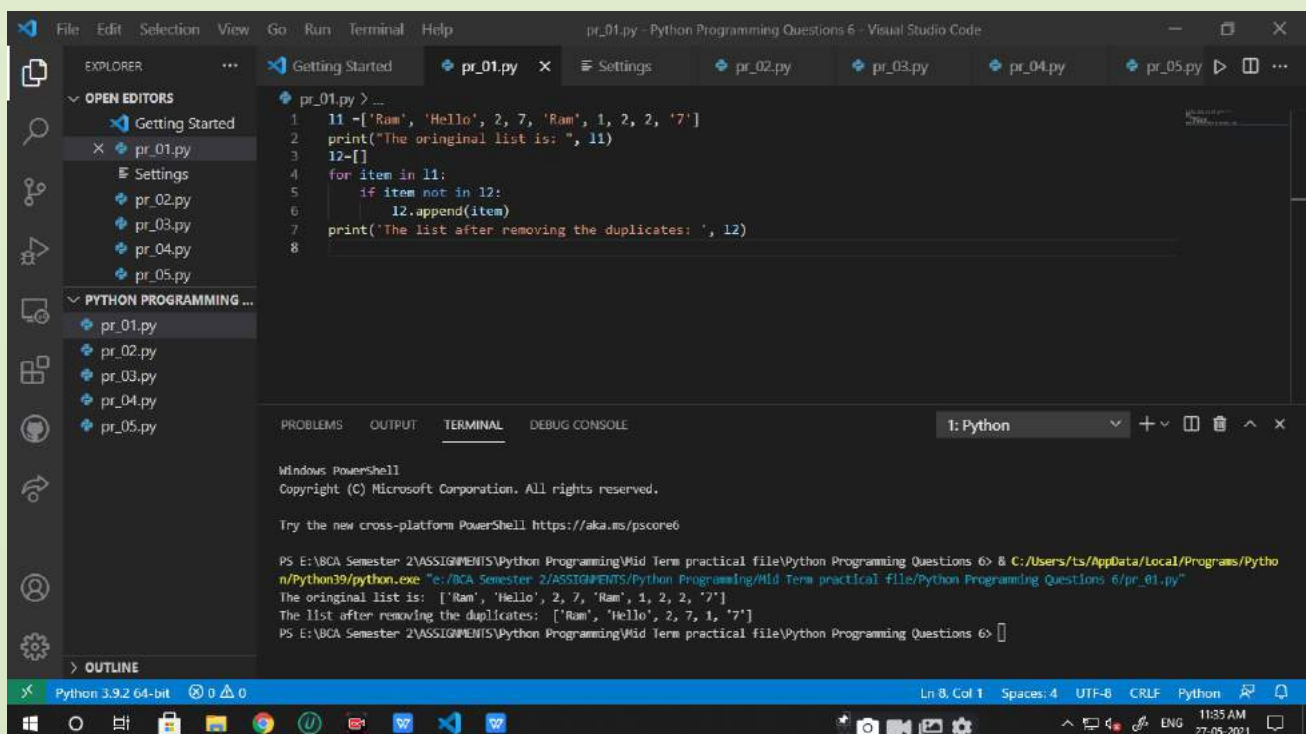
The screenshot displays the Visual Studio Code interface. The Explorer panel on the left shows the project structure with files like 01\_palindrome.py, 02\_armstrongNumber.py, 03\_factorial.py, 04\_fibonacci.py, and 05\_perfectNumber.py. The main editor window shows the code for 05\_perfectNumber.py, which is a Python program to check if a number is perfect. The terminal at the bottom shows the command prompt running the program, with the input '33590336' and the output 'The number is perfect number.' A yellow warning icon in the bottom right corner indicates 'USB device not recognized'.



# Python Programming Questions 6

1. Write a python program to remove duplicate values from a list.

```
l1=['Ram', 'Hello', 2, 7, 'Ram', 1, 2, 2, '7']
print("The original list is: ", l1)
l2=[]
for item in l1:
    if item not in l2:
        l2.append(item)
print('The list after removing the duplicates: ', l2)
```



The screenshot shows the Visual Studio Code interface with a Python file named `pr_01.py` open. The code in the file is as follows:

```
1 l1=['Ram', 'Hello', 2, 7, 'Ram', 1, 2, 2, '7']
2 print("The original list is: ", l1)
3 l2=[]
4 for item in l1:
5     if item not in l2:
6         l2.append(item)
7 print('The list after removing the duplicates: ', l2)
```

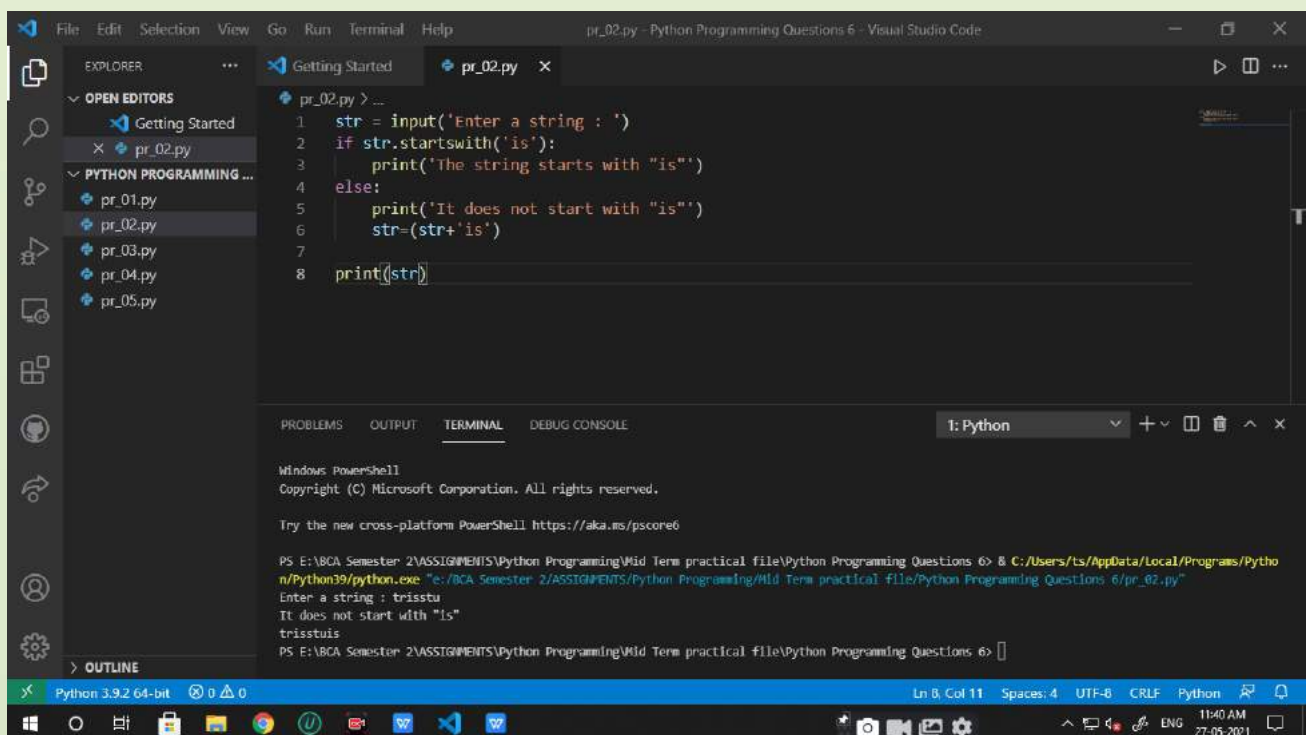
The terminal output shows the execution of the program:

```
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 6> C:\Users\ts\AppData\Local\Programs\Python\Python39\python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 6/pr_01.py"
The original list is: ['Ram', 'Hello', 2, 7, 'Ram', 1, 2, 2, '7']
The list after removing the duplicates: ['Ram', 'Hello', 2, 7, 1, '7']
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 6>
```

2. Write a python program to get a string from the user and check if it starts with "is" or not. If not then add is with it.

```
str = input('Enter a string : ')
if str.startswith('is'):
    print('The string starts with "is"')
else:
    print('It does not start with "is"')
    str=(str+'is')

print(str)
```



The screenshot shows the Visual Studio Code interface. The Explorer panel on the left lists files in the 'PYTHON PROGRAMMING ...' folder, including pr\_01.py through pr\_05.py. The main editor window displays the Python code from the previous block. Below the editor, the TERMINAL panel is active, showing the output of running the program. The terminal text is as follows:

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

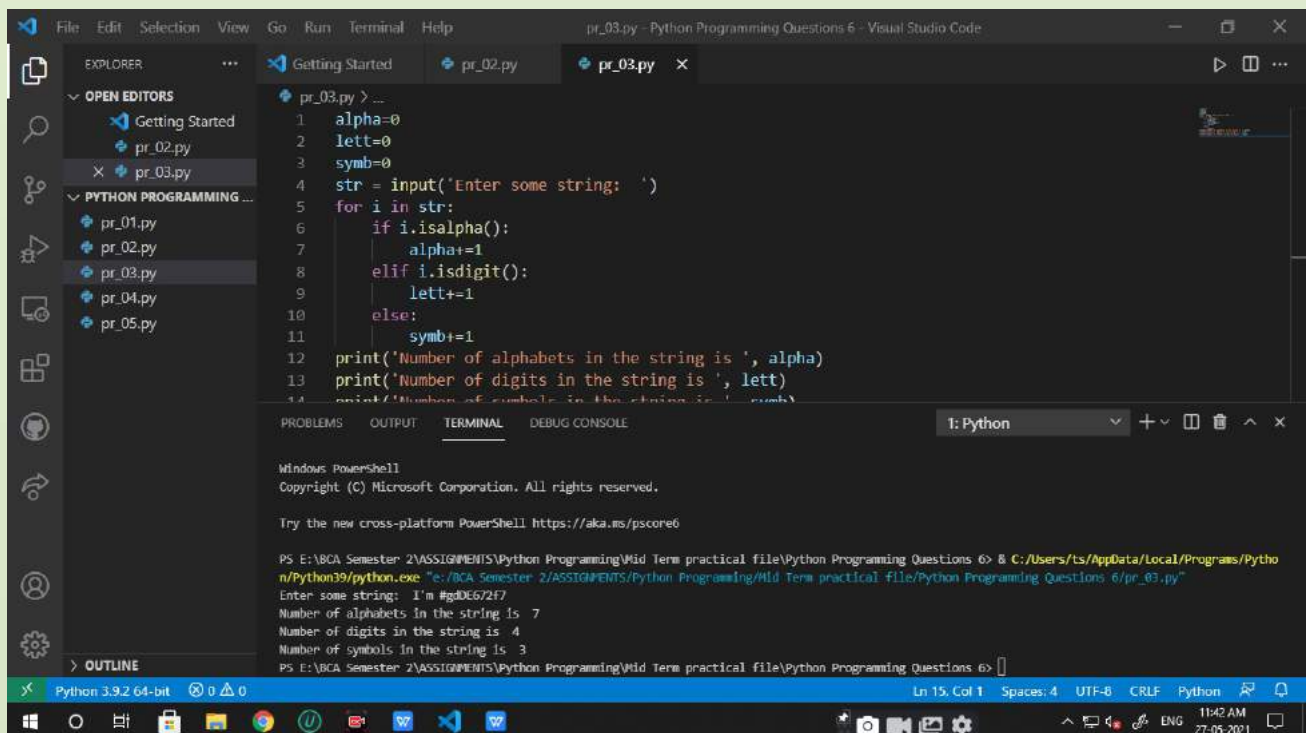
Try the new cross-platform PowerShell https://aka.ms/pscore6

PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 6> & C:/Users/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 6/pr_02.py"
Enter a string : trisstu
It does not start with "is"
trisstuis
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 6>
```

The status bar at the bottom indicates the Python 3.9.2 64-bit environment is active, with the cursor at line 8, column 11. The system clock shows 11:40 AM on 27-05-2021.

3. Write a python program to count the number of alphabets, digits and symbols in the string given by the user.

```
alpha=0
lett=0
symb=0
str = input('Enter some string: ')
for i in str:
    if i.isalpha():
        alpha+=1
    elif i.isdigit():
        lett+=1
    else:
        symb+=1
print('Number of alphabets in the string is ', alpha)
print('Number of digits in the string is ', lett)
print('Number of symbols in the string is ', symb)
```



The screenshot displays the Visual Studio Code interface. The Explorer panel on the left shows a project named 'Python Programming Questions 6' with several Python files. The main editor window displays the Python code from the previous block. The Output panel at the bottom shows the execution results of the program, including the input string 'I'm #g006/2f7' and the counts: 7 alphabets, 4 digits, and 3 symbols.

```
File Edit Selection View Go Run Terminal Help
pr_03.py - Python Programming Questions 6 - Visual Studio Code

EXPLORER
  OPEN EDITORS
    Getting Started
    pr_02.py
    pr_03.py
  PYTHON PROGRAMMING ...
    pr_01.py
    pr_02.py
    pr_03.py
    pr_04.py
    pr_05.py

pr_03.py
1 alpha=0
2 lett=0
3 symb=0
4 str = input('Enter some string: ')
5 for i in str:
6     if i.isalpha():
7         alpha+=1
8     elif i.isdigit():
9         lett+=1
10    else:
11        symb+=1
12    print('Number of alphabets in the string is ', alpha)
13    print('Number of digits in the string is ', lett)
14    print('Number of symbols in the string is ', symb)

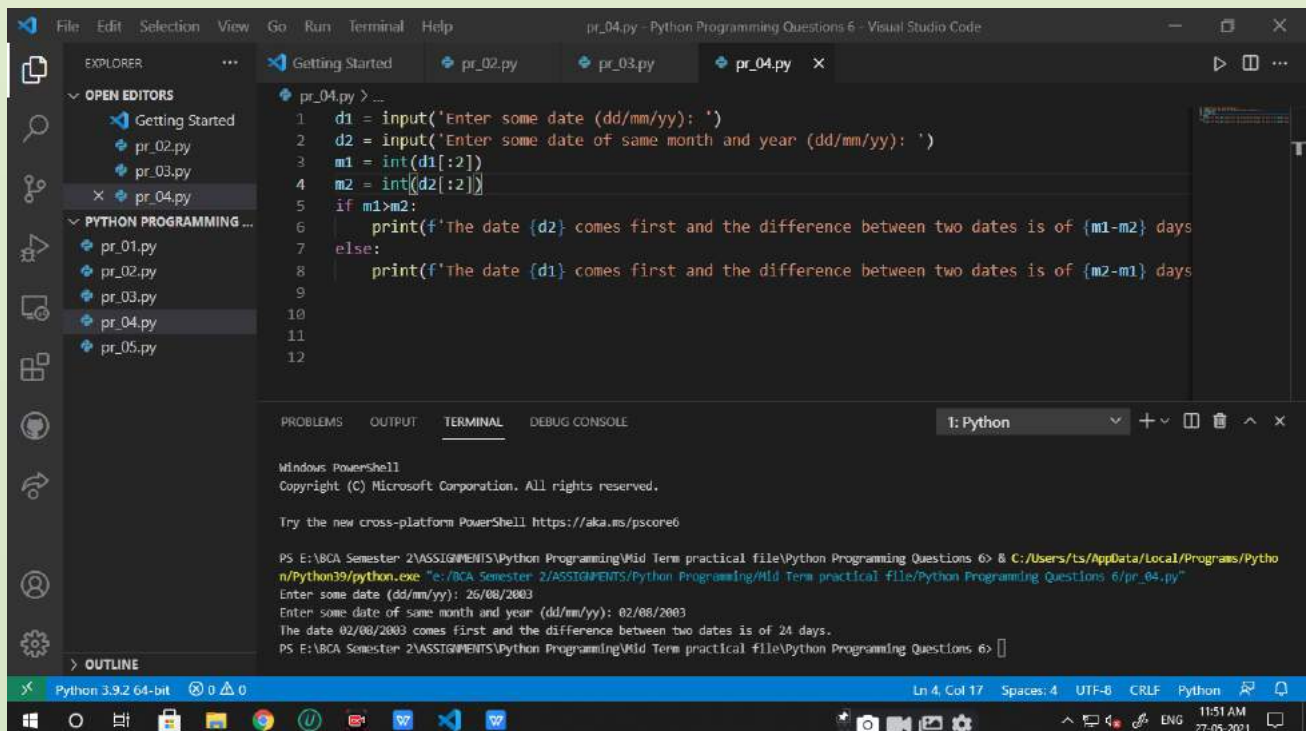
TERMINAL
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 6> & C:\Users\ts\AppData\Local\Programs\Python\Python39\python.exe "E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 6\pr_03.py"
Enter some string: I'm #g006/2f7
Number of alphabets in the string is 7
Number of digits in the string is 4
Number of symbols in the string is 3
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 6>
```

4. Take two dates of same month and same year from the user in the format dd/mm/yy. Now compare only the dates and calculate the number of days between the two dates and also print which date comes first.

```
d1 = input('Enter some date (dd/mm/yy): ')
d2 = input('Enter some date of same month and year (dd/mm/yy): ')
m1 = int(d1[:2])
m2 = int(d2[:2])
if m1>m2:
    print(f'The date {d2} comes first and the difference between two dates is of {m1-m2} days.')
else:
    print(f'The date {d1} comes first and the difference between two dates is of {m2-m1} days.')
```



The screenshot shows the Visual Studio Code interface. The Explorer pane on the left lists several Python files, with 'pr\_04.py' selected. The main editor window displays the Python code from the previous block. Below the editor, the TERMINAL pane is active, showing the output of running the script. The terminal text is as follows:

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

PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 6> & C:\Users\ts\AppData\Local\Programs\Python\Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 6/pr_04.py"
Enter some date (dd/mm/yy): 26/08/2003
Enter some date of same month and year (dd/mm/yy): 02/08/2003
The date 02/08/2003 comes first and the difference between two dates is of 24 days.
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 6>
```

The status bar at the bottom indicates the file is 'pr\_04.py', line 4, column 17, with 4 spaces, in UTF-8 encoding with CRLF line endings, using the Python interpreter.



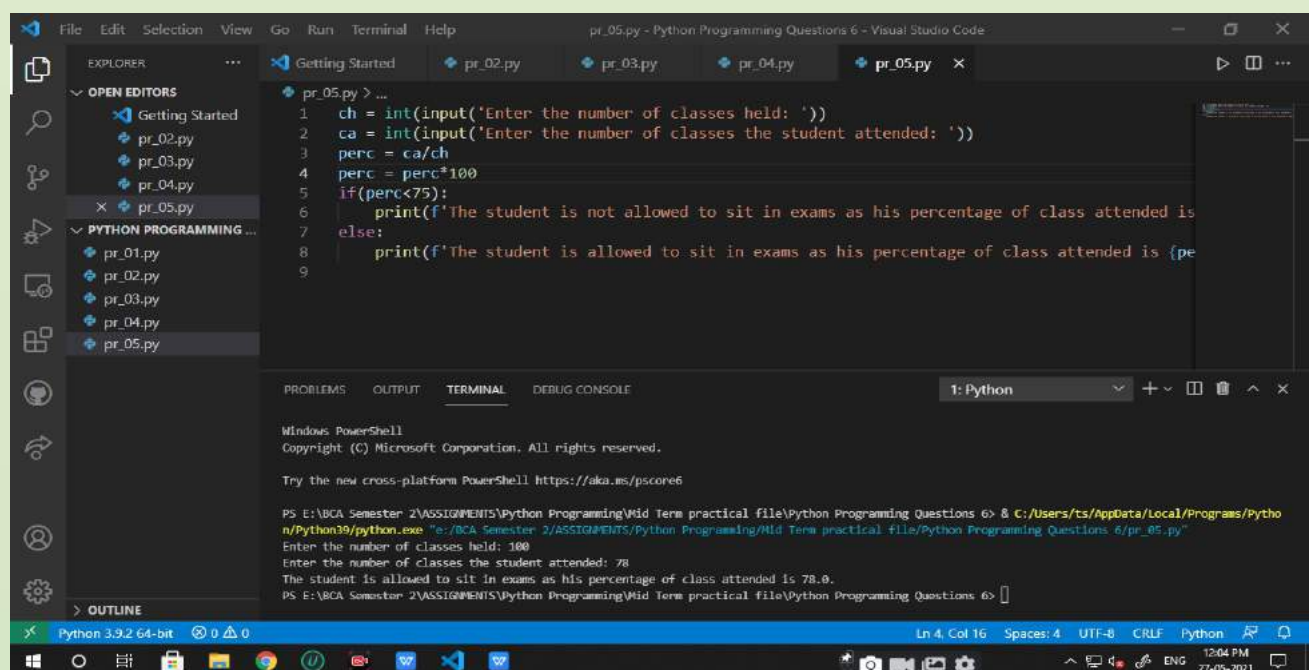
5. A student is not allowed to sit in exams ,if his/her attendance is less than 75%. Take following inputs from the user:

-> number of classes held.

-> number of classes attended.

Print the percentage of class attended and also tell if he/she will sit in the exams.

```
ch = int(input('Enter the number of classes held: '))
ca = int(input('Enter the number of classes the student attended: '))
perc = ca/ch
perc = perc*100
if(perc<75):
    print(f'The student is not allowed to sit in exams as his percentage of class attended is {perc}.')
else:
    print(f'The student is allowed to sit in exams as his percentage of class attended is {perc}.')
```



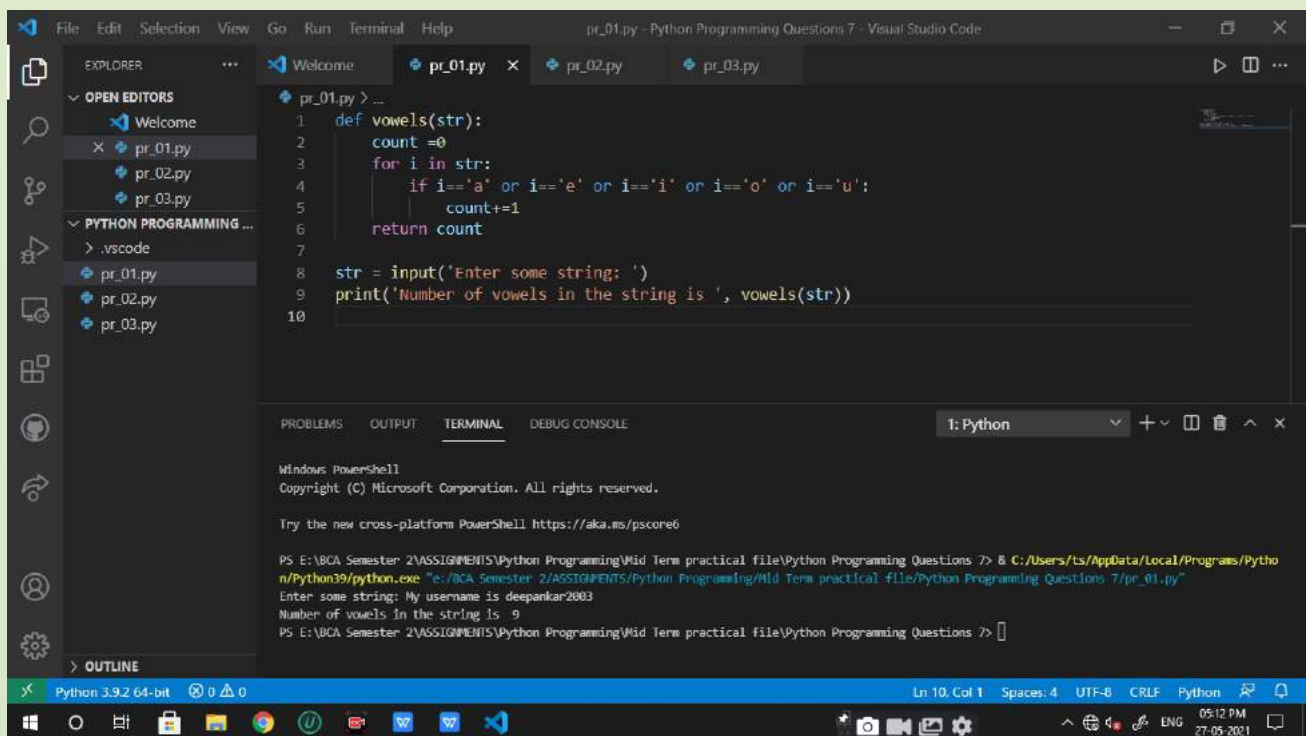
The screenshot displays the Visual Studio Code interface. The Explorer panel on the left shows a project named 'Python Programming Questions 6' with several Python files. The main editor window displays the Python script from the previous block. Below the editor, the TERMINAL panel shows the output of running the script. The terminal output indicates that the user entered 100 for the number of classes held and 78 for the number of classes attended, resulting in a percentage of 78.0. Since 78.0 is greater than 75, the program outputs: 'The student is allowed to sit in exams as his percentage of class attended is 78.0.'

```
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 6> & C:\Users\ts\AppData\Local\Programs\Python\Python39\python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 6/pr_05.py"
Enter the number of classes held: 100
Enter the number of classes the student attended: 78
The student is allowed to sit in exams as his percentage of class attended is 78.0.
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 6>
```

# Python Programming Questions 7

1. Write a python program having a user defined function which will calculate the total number of vowels in a string given by the user.

```
def vowels(str):  
    count =0  
    for i in str:  
        if i=='a' or i=='e' or i=='i' or i=='o' or i=='u':  
            count+=1  
    return count  
  
str = input('Enter some string: ')  
print('Number of vowels in the string is ', vowels(str))
```



The screenshot displays the Visual Studio Code interface. The Explorer panel on the left shows the project structure with files pr\_01.py, pr\_02.py, and pr\_03.py. The main editor window shows the Python code for counting vowels. The TERMINAL panel at the bottom shows the execution of the program. The user enters the string "My username is deepankar2003", and the program outputs "Number of vowels in the string is 9".

```
pr_01.py - Python Programming Questions 7 - Visual Studio Code  
1 def vowels(str):  
2     count =0  
3     for i in str:  
4         if i=='a' or i=='e' or i=='i' or i=='o' or i=='u':  
5             count+=1  
6     return count  
7  
8 str = input('Enter some string: ')  
9 print('Number of vowels in the string is ', vowels(str))  
10
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE  
1: Python

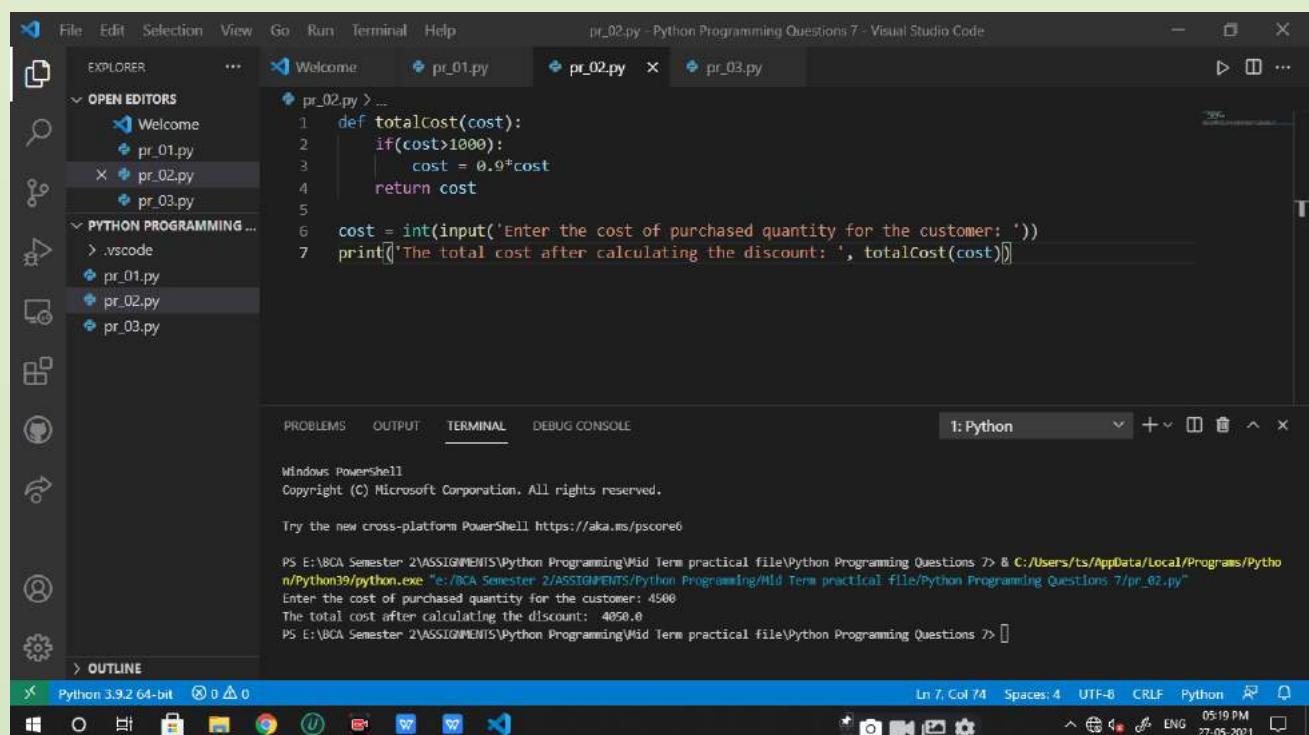
Windows PowerShell  
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PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 7> & C:\Users\ts\AppData\Local\Programs\Python\Python39\python.exe "E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 7\pr\_01.py"  
Enter some string: My username is deepankar2003  
Number of vowels in the string is 9  
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 7>

Python 3.9.2 64-bit  
Ln 10, Col 1 Spaces: 4 UTF-8 CRLF Python

2. A shop will give discount of 10% if the cost of the purchased quantity is more then 1000 rupees. Now write a python on program having a user defined function which will first calculate whether the purchased quantity is more than 1000 rupees or not and then accordingly it will print the total cost for the user.

```
def totalCost(cost):  
    if(cost>1000):  
        cost = 0.9*cost  
    return cost  
  
cost = int(input('Enter the cost of purchased quantity for the customer: '))  
print('The total cost after calculating the discount: ', totalCost(cost))
```



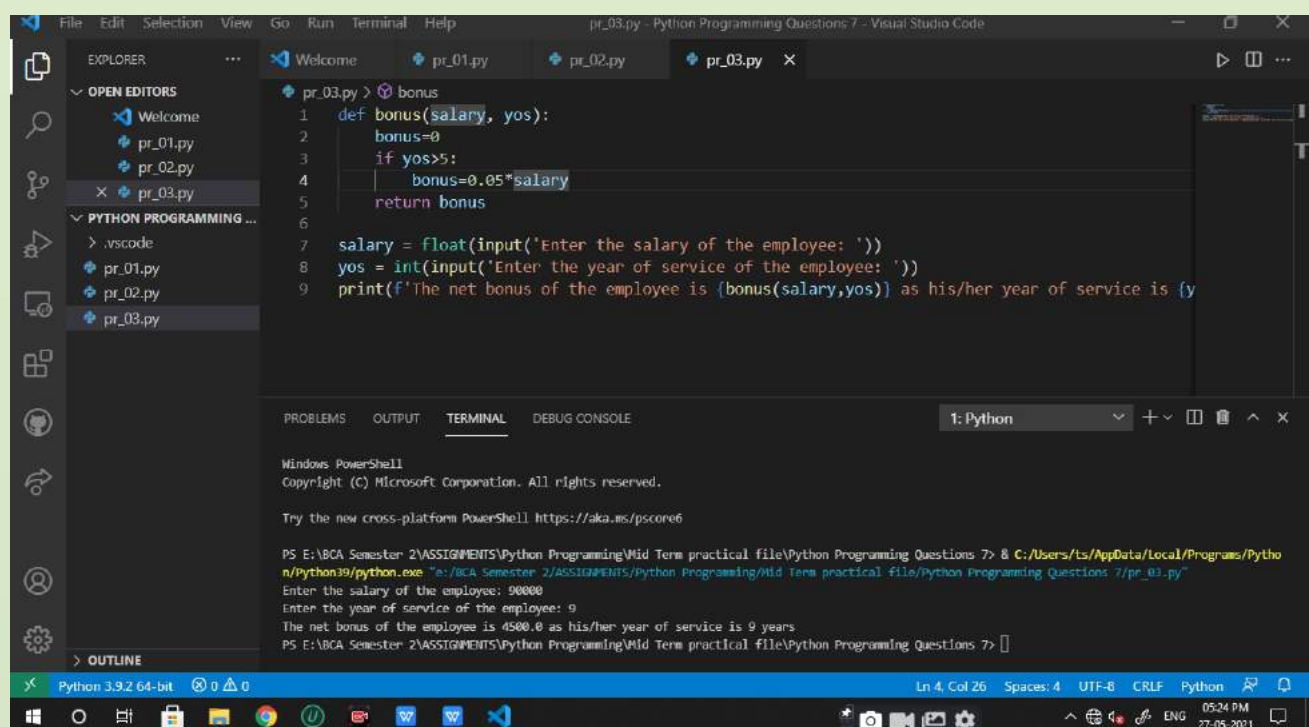
The screenshot displays the Visual Studio Code interface. The Explorer panel on the left shows a project named 'Python Programming Questions 7' with files 'pr\_01.py', 'pr\_02.py', and 'pr\_03.py'. The main editor window shows the code for 'pr\_02.py', which is the same code as provided in the previous block. Below the editor, the TERMINAL panel is active, showing the output of running the program. The terminal text is as follows:

```
Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.  
  
Try the new cross-platform PowerShell https://aka.ms/pscore6  
  
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 7> & C:/Users/ts/AppData/Local/Programs/Python/Python39/python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 7/pr_02.py"  
Enter the cost of purchased quantity for the customer: 4500  
The total cost after calculating the discount: 4050.0  
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 7>
```

The status bar at the bottom indicates the Python 3.9.2 64-bit environment is active, with the cursor at line 7, column 74. The system clock shows 05:19 PM on 27-05-2021.

3. Suppose a company decided to give a bonus of 5% to their employee if his/her year of service in the company is more than 5 years. Now write a python program having a user defined function which will print the net bonus amount. Ask user to input the salary and the year of service.

```
def bonus(salary, yos):  
    bonus=0  
    if yos>5:  
        bonus=0.05*salary  
    return bonus  
  
salary = float(input('Enter the salary of the employee: '))  
yos = int(input('Enter the year of service of the employee: '))  
print(f'The net bonus of the employee is {bonus(salary,yos)} as his/her year of service is {yos} years')
```



The screenshot displays the Visual Studio Code interface. The Explorer panel on the left shows a project named 'PYTHON PROGRAMMING ...' with files 'pr\_01.py', 'pr\_02.py', and 'pr\_03.py'. The main editor window shows the code for 'pr\_03.py', which is the same Python program as shown in the previous block. Below the editor, the TERMINAL panel is active, showing the output of the program. The terminal text is as follows:

```
Windows PowerShell  
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Try the new cross-platform PowerShell https://aka.ms/pscore6  
  
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 7> & C:\Users\ts\AppData\Local\Programs\Python\Python39\python.exe "e:/BCA Semester 2/ASSIGNMENTS/Python Programming/Mid Term practical file/Python Programming Questions 7/pr_03.py"  
Enter the salary of the employee: 90000  
Enter the year of service of the employee: 9  
The net bonus of the employee is 4500.0 as his/her year of service is 9 years  
PS E:\BCA Semester 2\ASSIGNMENTS\Python Programming\Mid Term practical file\Python Programming Questions 7>
```

The status bar at the bottom indicates the Python version is 3.9.2 64-bit, and the file encoding is UTF-8.