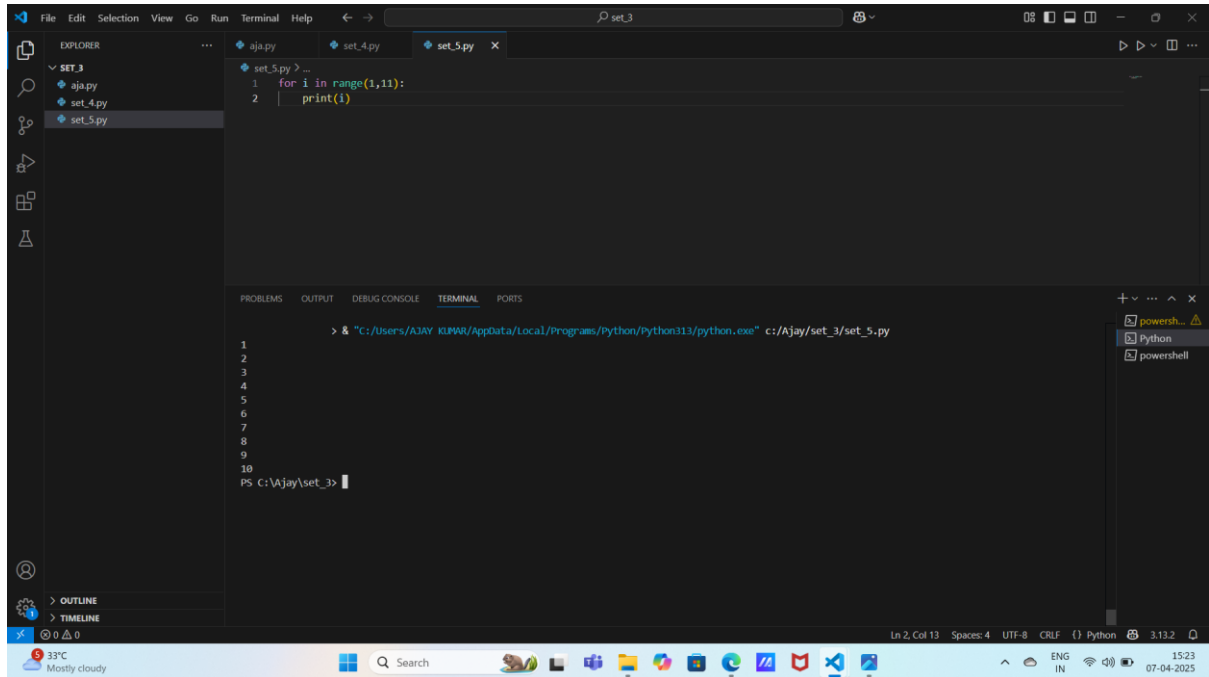


Question 1.



The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a project named 'set_3' containing three files: 'aja.py', 'set_4.py', and 'set_5.py'. The 'set_5.py' file is selected and its code is displayed in the editor. The code is a simple loop that prints numbers from 1 to 10. The Terminal pane at the bottom shows the command prompt output, which is the same sequence of numbers from 1 to 10. The status bar at the bottom indicates the file is at line 2, column 13, with 4 spaces, using UTF-8 encoding and CRLF line endings. The system tray at the very bottom shows a temperature of 33°C and the date 07-04-2025.

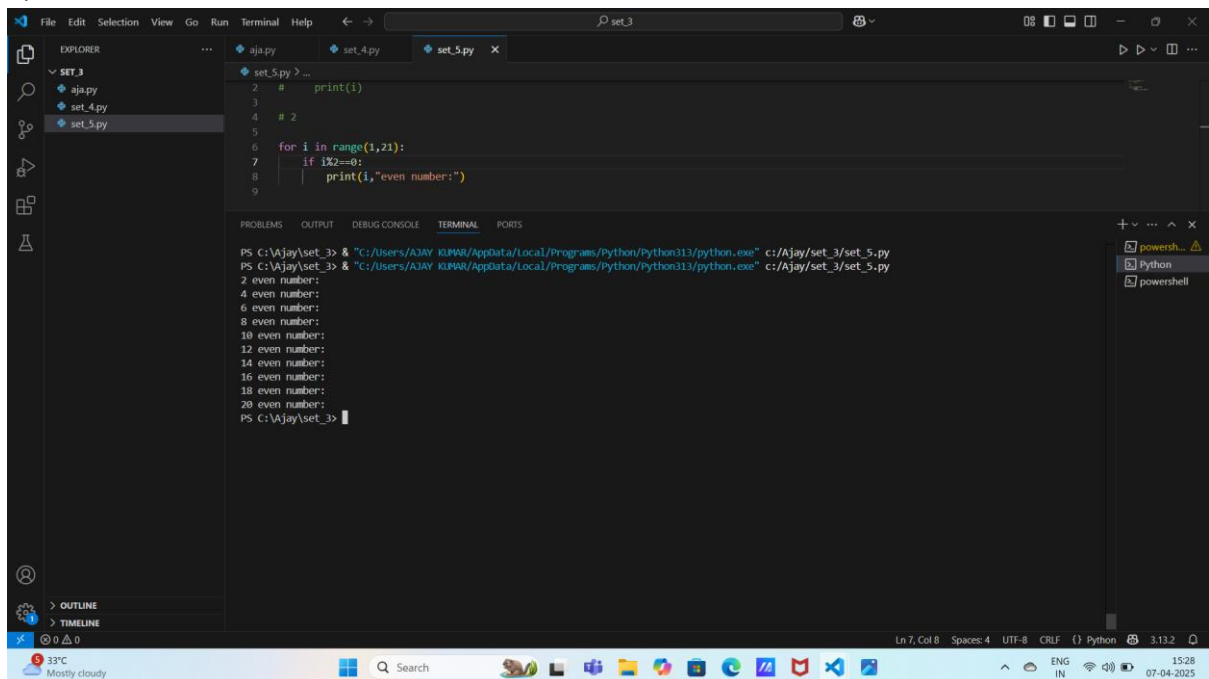
```
File Edit Selection View Go Run Terminal Help
set_3
aja.py
set_4.py
set_5.py

set_5.py > ...
1 for i in range(1,11):
2     print(i)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
> & "C:/Users/AJAY KUMAR/AppData/Local/Programs/Python/Python313/python.exe" c:/Ajay/set_3/set_5.py
1
2
3
4
5
6
7
8
9
10
PS C:\Ajay\set_3>

Ln 2, Col 13 Spaces: 4 UTF-8 CRLF Python 3.13.2
33°C Mostly cloudy 15:23 07-04-2025
```

Question 2.



The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a project named 'set_3' containing three files: 'aja.py', 'set_4.py', and 'set_5.py'. The 'set_5.py' file is selected and its code is displayed in the editor. The code is a loop that prints even numbers from 2 to 20. The Terminal pane at the bottom shows the command prompt output, which is the same sequence of even numbers from 2 to 20. The status bar at the bottom indicates the file is at line 7, column 8, with 4 spaces, using UTF-8 encoding and CRLF line endings. The system tray at the very bottom shows a temperature of 33°C and the date 07-04-2025.

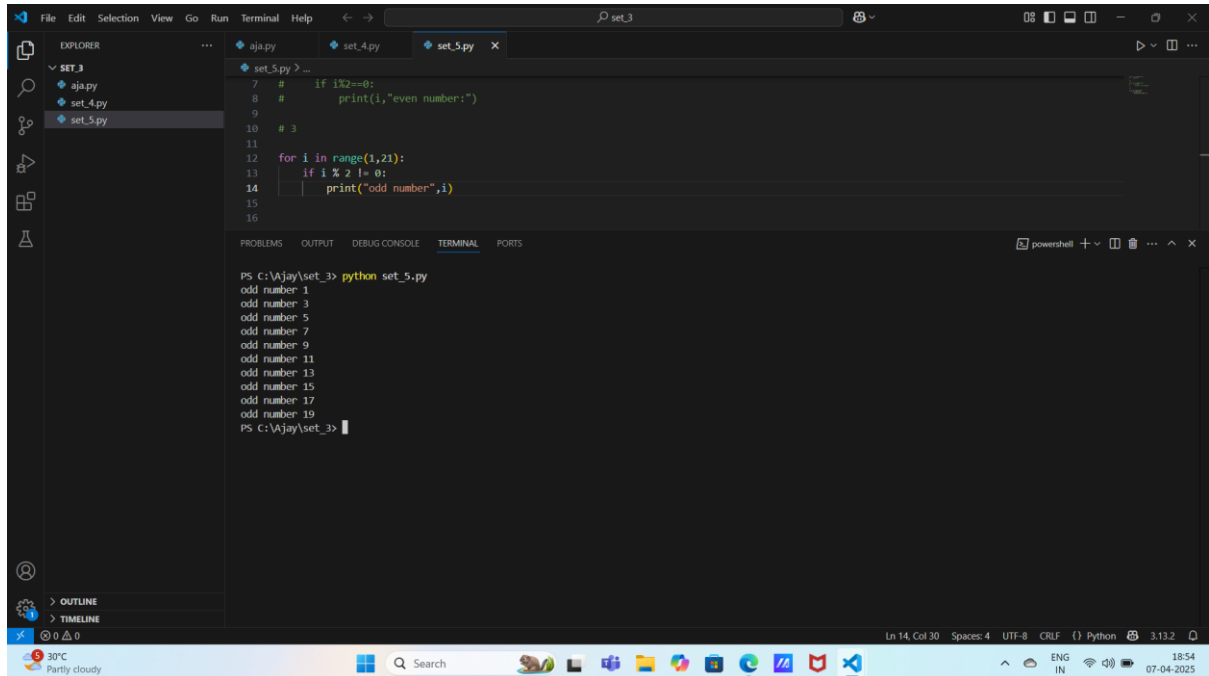
```
File Edit Selection View Go Run Terminal Help
set_3
aja.py
set_4.py
set_5.py

set_5.py > ...
2 # print(i)
3
4 # 2
5
6 for i in range(1,21):
7     if i%2==0:
8         print(i,"even number:")
9

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Ajay\set_3> & "C:/Users/AJAY KUMAR/AppData/Local/Programs/Python/Python313/python.exe" c:/Ajay/set_3/set_5.py
PS C:\Ajay\set_3> & "C:/Users/AJAY KUMAR/AppData/Local/Programs/Python/Python313/python.exe" c:/Ajay/set_3/set_5.py
2 even number:
4 even number:
6 even number:
8 even number:
10 even number:
12 even number:
14 even number:
16 even number:
18 even number:
20 even number:
PS C:\Ajay\set_3>

Ln 7, Col 8 Spaces: 4 UTF-8 CRLF Python 3.13.2
33°C Mostly cloudy 15:28 07-04-2025
```

Question 3.



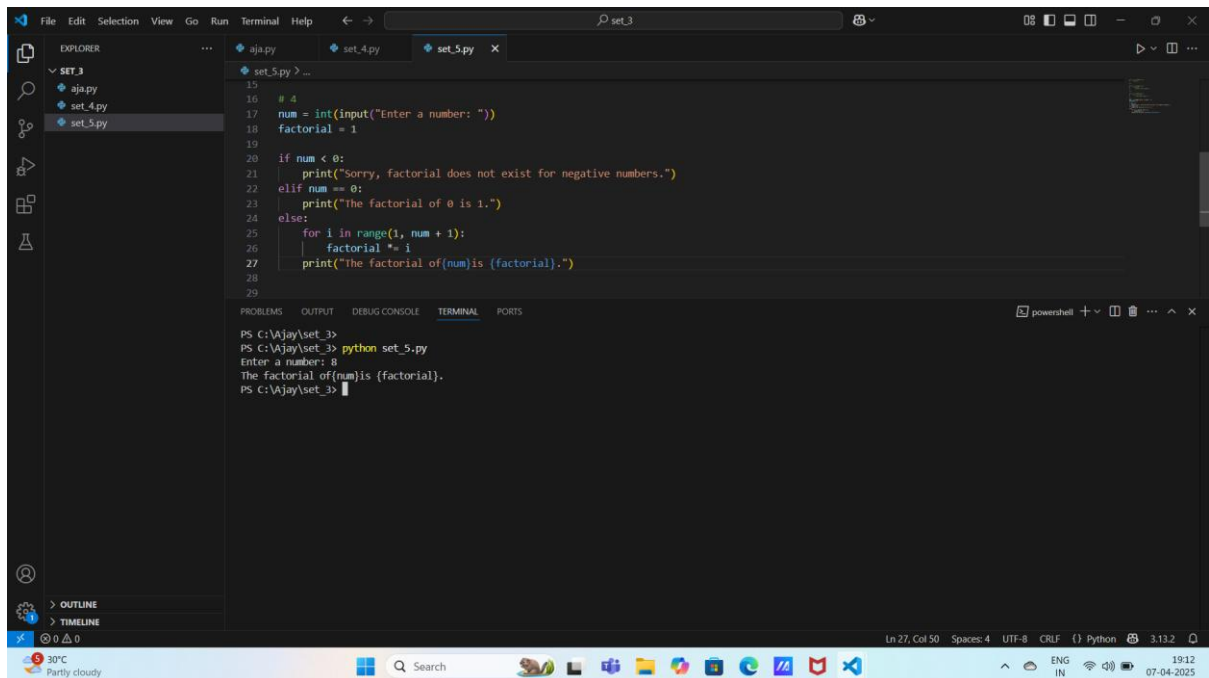
The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a project named 'set_3' containing three files: 'ajay.py', 'set_4.py', and 'set_5.py'. The 'set_5.py' file is open in the editor. The code in 'set_5.py' is as follows:

```
7 # if i%2==0:
8 #     print(i,"even number:")
9
10 # 3
11
12 for i in range(1,21):
13     if i % 2 != 0:
14         print("odd number",i)
15
16
```

The Terminal pane at the bottom shows the command prompt output after running the script:

```
PS C:\Ajay\set_3> python set_5.py
odd number 1
odd number 3
odd number 5
odd number 7
odd number 9
odd number 11
odd number 13
odd number 15
odd number 17
odd number 19
PS C:\Ajay\set_3>
```

Question 4.



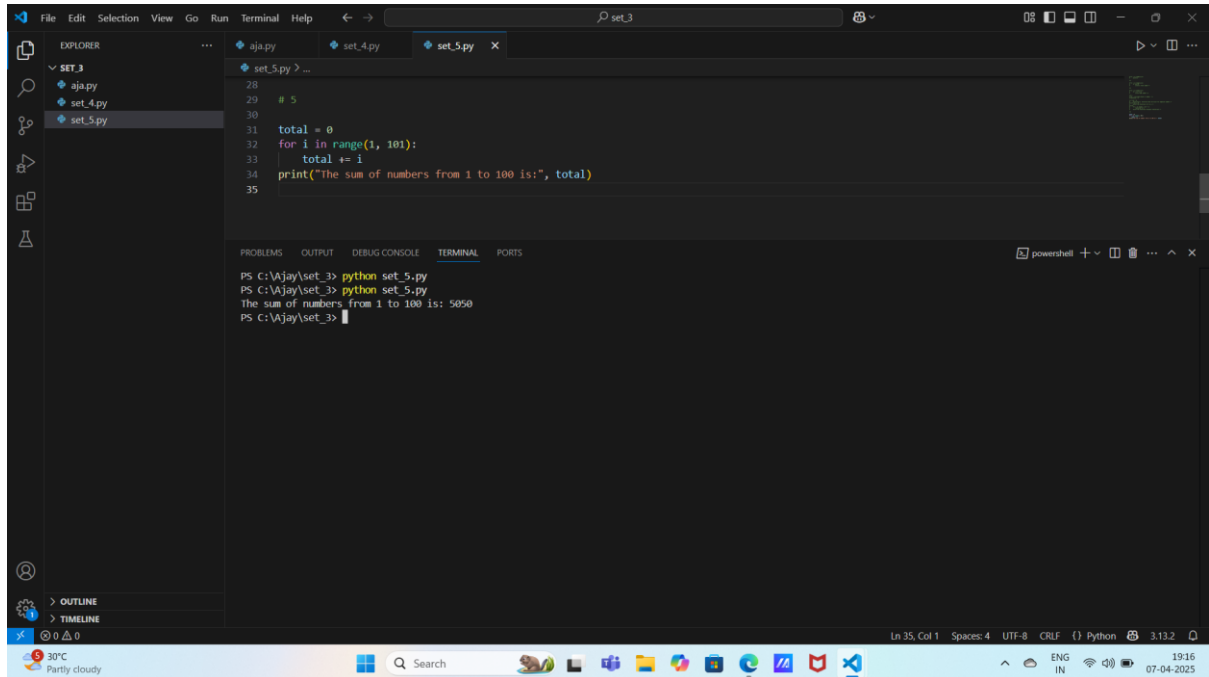
The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a project named 'set_3' containing three files: 'ajay.py', 'set_4.py', and 'set_5.py'. The 'set_5.py' file is open in the editor. The code in 'set_5.py' is as follows:

```
15
16 # 4
17 num = int(input("Enter a number: "))
18 factorial = 1
19
20 if num < 0:
21     print("Sorry, factorial does not exist for negative numbers.")
22 elif num == 0:
23     print("The factorial of 0 is 1.")
24 else:
25     for i in range(1, num + 1):
26         factorial *= i
27     print("The factorial of {num} is {factorial}.")
28
29
```

The Terminal pane at the bottom shows the command prompt output after running the script:

```
PS C:\Ajay\set_3>
PS C:\Ajay\set_3> python set_5.py
Enter a number: 8
The factorial of {num} is {factorial}.
PS C:\Ajay\set_3>
```

Question 5.



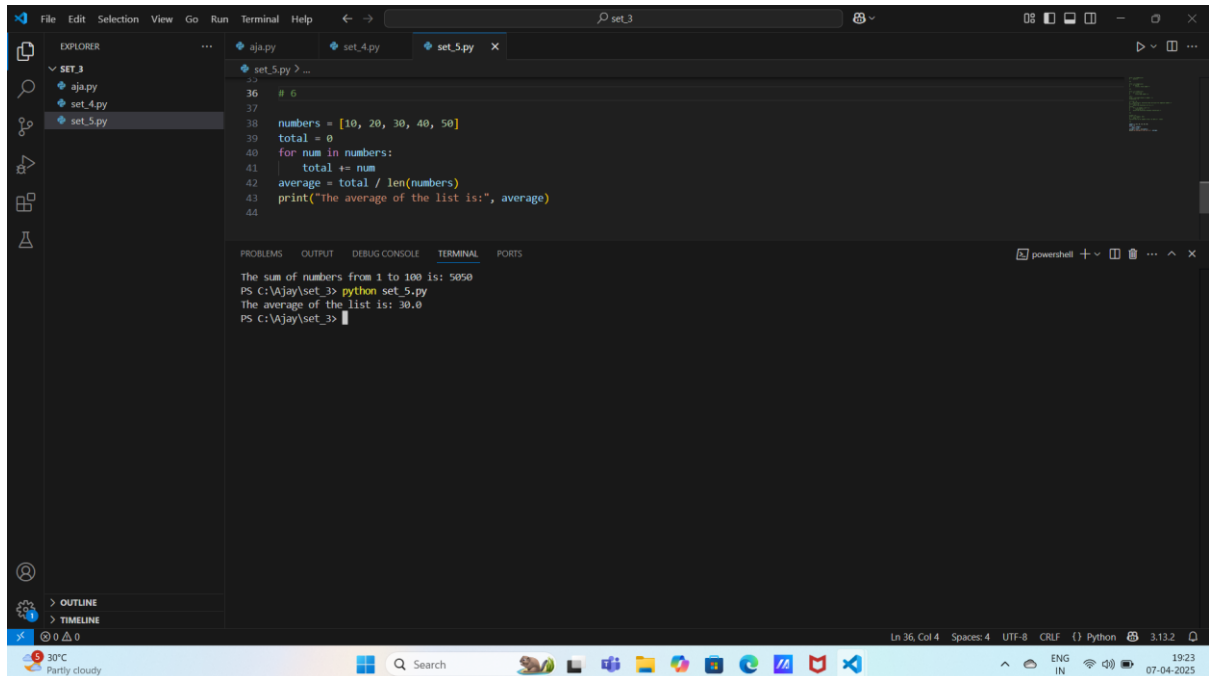
The screenshot shows the Visual Studio Code interface with a Python file named `set_5.py` open. The file contains a script that calculates the sum of numbers from 1 to 100. The terminal shows the command `python set_5.py` being executed, and the output is "The sum of numbers from 1 to 100 is: 5050".

```
28
29 # 5
30
31 total = 0
32 for i in range(1, 101):
33     total += i
34 print("The sum of numbers from 1 to 100 is:", total)
35
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Vjay\set_3> python set_5.py
PS C:\Vjay\set_3> python set_5.py
The sum of numbers from 1 to 100 is: 5050
PS C:\Vjay\set_3>
```

Question 6.



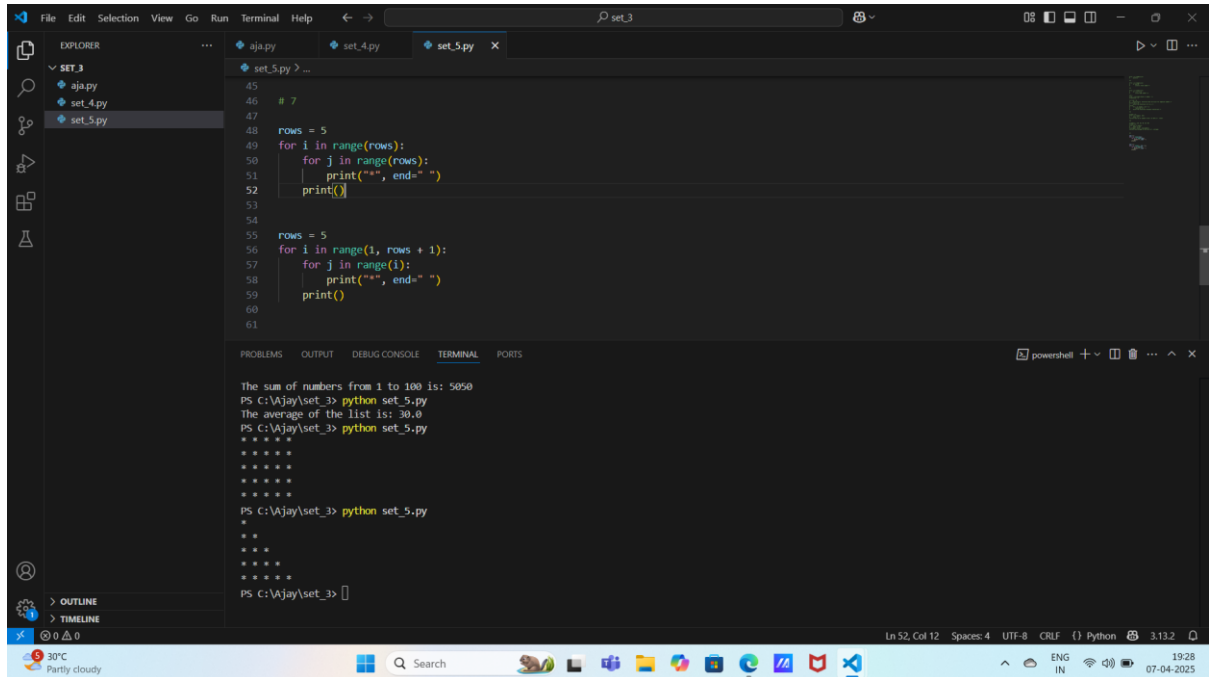
The screenshot shows the Visual Studio Code interface with a Python file named `set_5.py` open. The file contains a script that calculates the average of a list of numbers. The terminal shows the command `python set_5.py` being executed, and the output is "The average of the list is: 30.0".

```
36 # 6
37
38 numbers = [10, 20, 30, 40, 50]
39 total = 0
40 for num in numbers:
41     total += num
42 average = total / len(numbers)
43 print("The average of the list is:", average)
44
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
The sum of numbers from 1 to 100 is: 5050
PS C:\Vjay\set_3> python set_5.py
The average of the list is: 30.0
PS C:\Vjay\set_3>
```

Question 7.



The screenshot shows the Visual Studio Code editor with a file explorer on the left containing a folder named 'set_3' with files 'aja.py', 'set_4.py', and 'set_5.py'. The 'set_5.py' file is open in the editor, showing a Python script with two nested loops. The terminal at the bottom shows the output of running the script, which calculates the sum and average of numbers from 1 to 100 and prints a grid of asterisks.

```
45
46 # 7
47
48 rows = 5
49 for i in range(rows):
50     for j in range(rows):
51         print("", end=" ")
52     print()
53
54
55 rows = 5
56 for i in range(1, rows + 1):
57     for j in range(i):
58         print("", end=" ")
59     print()
60
61
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

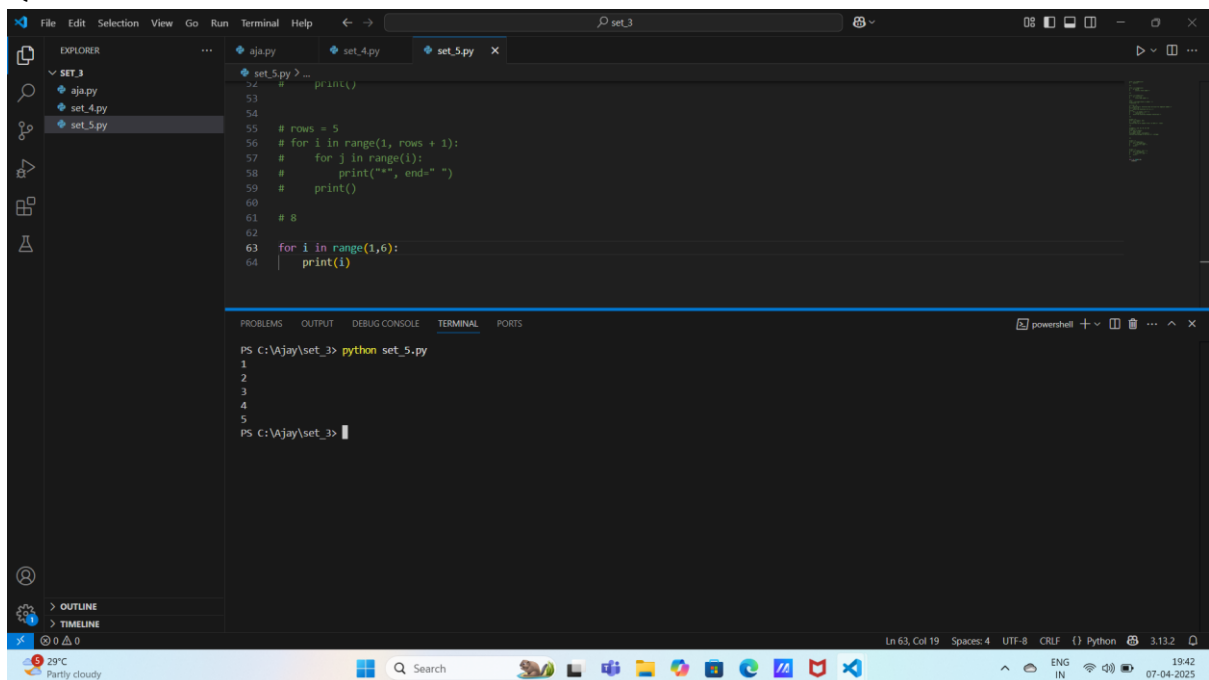
The sum of numbers from 1 to 100 is: 5050
PS C:\Vjay\set_3> python set_5.py
The average of the list is: 30.0
PS C:\Vjay\set_3> python set_5.py

PS C:\Vjay\set_3> python set_5.py
*
*
*
*
*

PS C:\Vjay\set_3>

Ln 52, Col 12 Spaces: 4 UTF-8 CRLF Python 3.11.2

Question 8.



The screenshot shows the Visual Studio Code editor with the same file explorer as in Question 7. The 'set_5.py' file is open, showing a Python script with a nested loop and a range function. The terminal at the bottom shows the output of running the script, which prints the numbers 1 through 5.

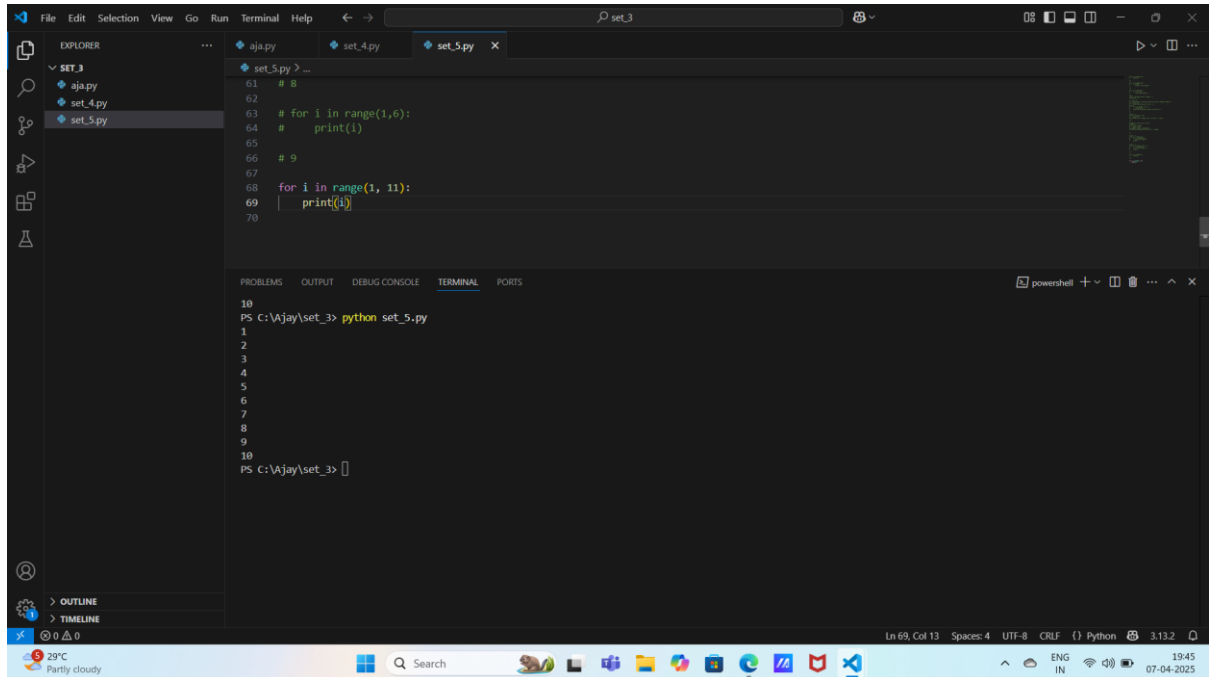
```
54 # print()
55
56 # rows = 5
57 # for i in range(1, rows + 1):
58 #     for j in range(i):
59 #         print("", end=" ")
60 #     print()
61
62 # 8
63 for i in range(1,6):
64     print(i)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Vjay\set_3> python set_5.py
1
2
3
4
5
PS C:\Vjay\set_3>

Ln 63, Col 19 Spaces: 4 UTF-8 CRLF Python 3.11.2

Question 9.



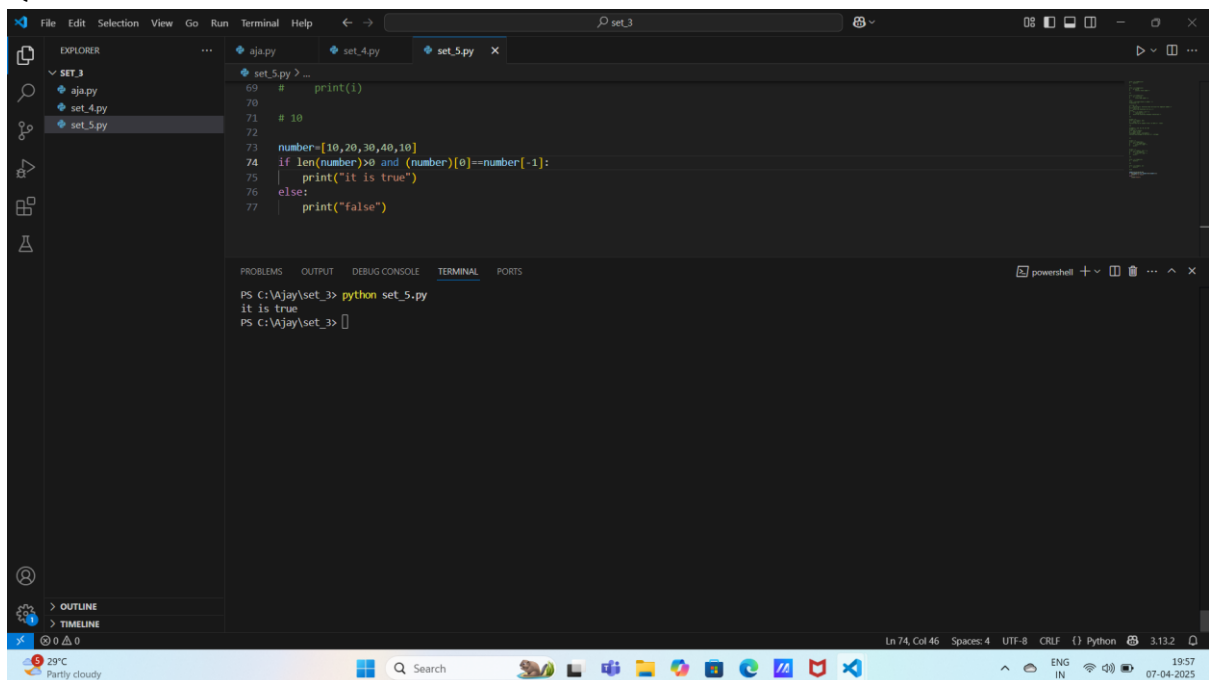
The screenshot shows the Visual Studio Code interface. The Explorer panel on the left shows a project named 'set_3' containing three files: 'aja.py', 'set_4.py', and 'set_5.py'. The 'set_5.py' file is open in the editor. The code in 'set_5.py' is as follows:

```
61 # 8
62
63 # for i in range(1,6):
64 #     print(i)
65
66 # 9
67
68 for i in range(1, 11):
69     print(i)
70
```

The Terminal panel at the bottom shows the command prompt output for running the script:

```
10
PS C:\Ajay\set_3> python set_5.py
1
2
3
4
5
6
7
8
9
10
PS C:\Ajay\set_3>
```

Question 10.



The screenshot shows the Visual Studio Code interface. The Explorer panel on the left shows a project named 'set_3' containing three files: 'aja.py', 'set_4.py', and 'set_5.py'. The 'set_5.py' file is open in the editor. The code in 'set_5.py' is as follows:

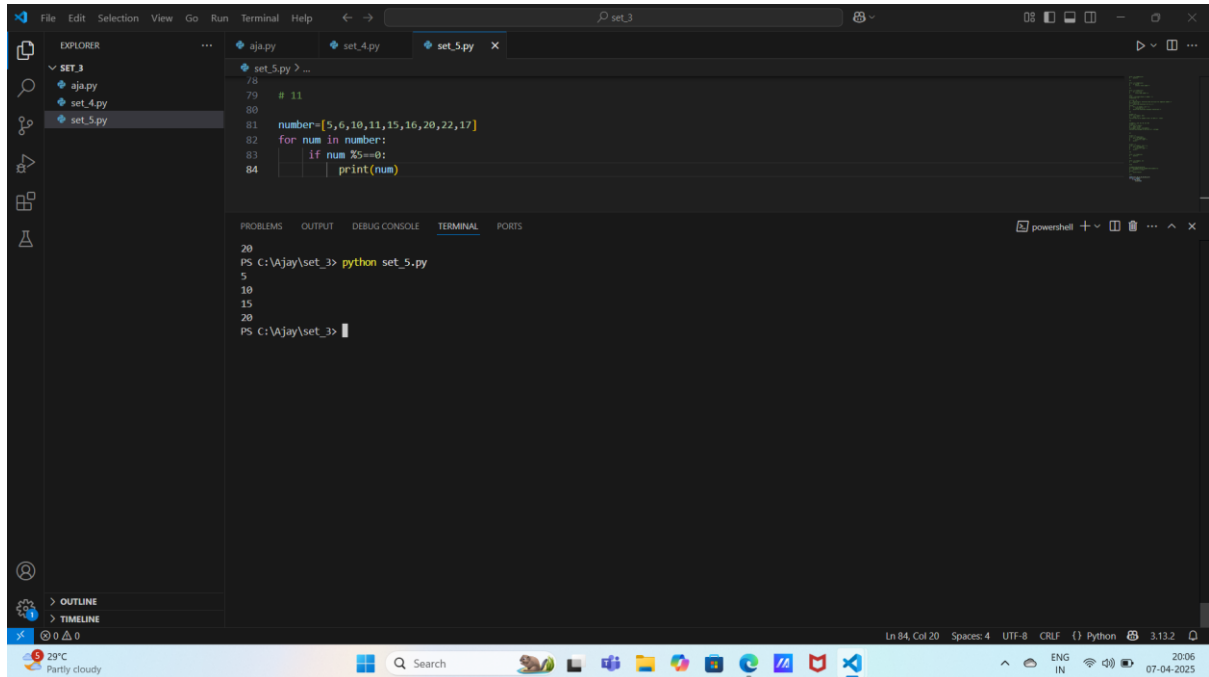
```
69 # print(i)
70
71 # 10
72
73 number=[10,20,30,40,10]
74 if len(number)>0 and (number)[0]==number[-1]:
75     print("it is true")
76 else:
77     print("false")

```

The Terminal panel at the bottom shows the command prompt output for running the script:

```
PS C:\Ajay\set_3> python set_5.py
it is true
PS C:\Ajay\set_3>
```

Question 11.



The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a project named 'set_3' containing files 'aja.py', 'set_4.py', and 'set_5.py'. The 'set_5.py' file is open in the editor. The code in 'set_5.py' is as follows:

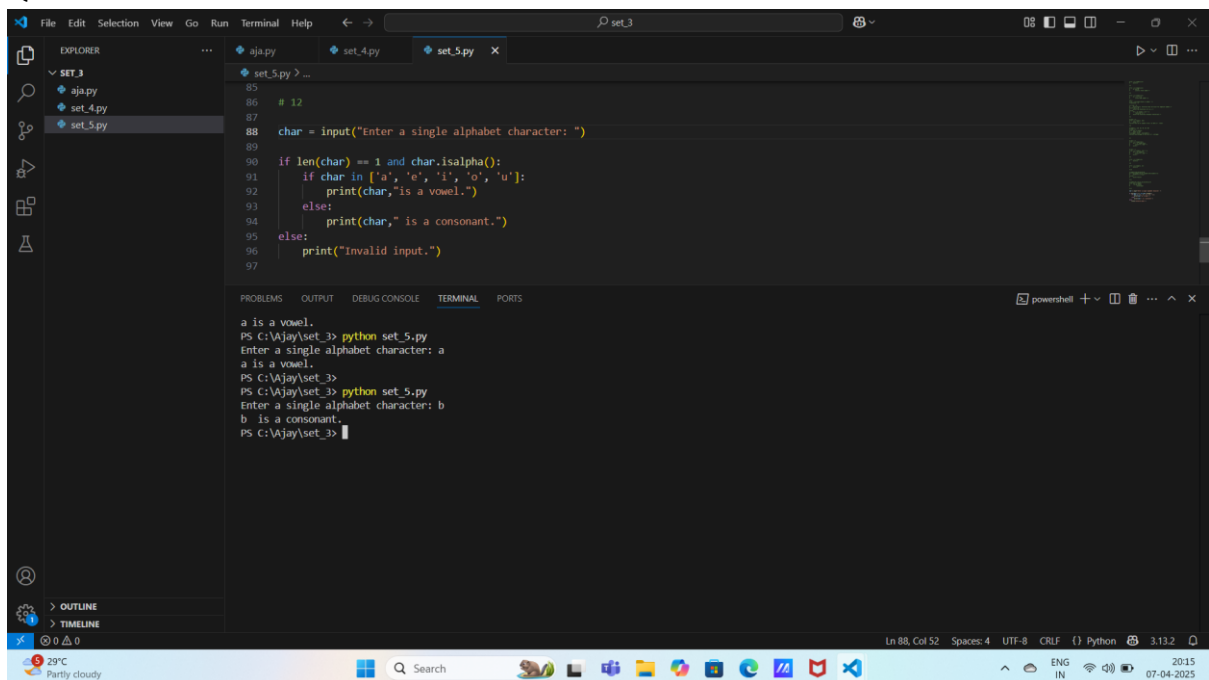
```
78 # 11
79
80
81 number=[5,6,10,11,15,16,20,22,17]
82 for num in number:
83     if num % 5 == 0:
84         print(num)
```

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

```
PS C:\Ajay\set_3> python set_5.py
5
10
15
20
PS C:\Ajay\set_3>
```

The status bar at the bottom indicates the file is at line 84, column 20, with 4 spaces, UTF-8 encoding, CR/LF line endings, and Python language.

Question 12.



The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a project named 'set_3' containing files 'aja.py', 'set_4.py', and 'set_5.py'. The 'set_5.py' file is open in the editor. The code in 'set_5.py' is as follows:

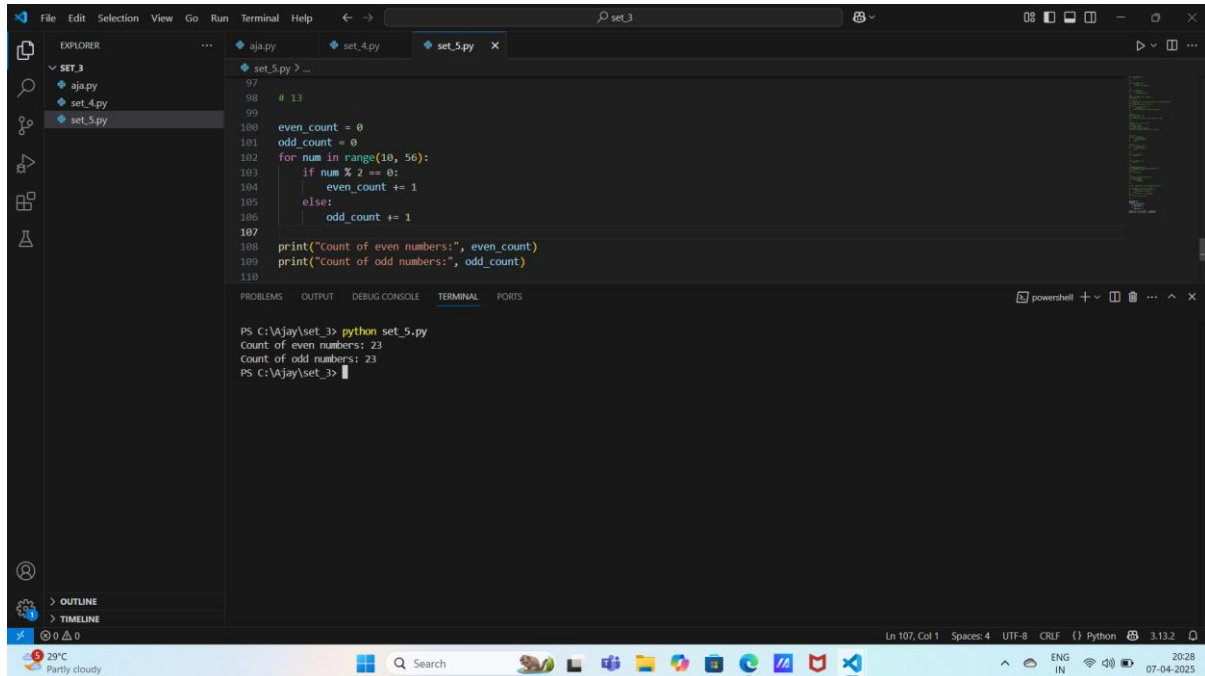
```
85 # 12
86
87 char = input("Enter a single alphabet character: ")
88
89 if len(char) == 1 and char.isalpha():
90     if char in ['a', 'e', 'i', 'o', 'u']:
91         print(char, "is a vowel.")
92     else:
93         print(char, "is a consonant.")
94 else:
95     print("Invalid input.")
96
97
```

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

```
a is a vowel.
PS C:\Ajay\set_3> python set_5.py
Enter a single alphabet character: a
a is a vowel.
PS C:\Ajay\set_3> python set_5.py
Enter a single alphabet character: b
b is a consonant.
PS C:\Ajay\set_3>
```

The status bar at the bottom indicates the file is at line 88, column 52, with 4 spaces, UTF-8 encoding, CR/LF line endings, and Python language.

Question 13



The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a project named 'set_3' containing files 'ajay.py', 'set_4.py', and 'set_5.py'. The 'set_5.py' file is open in the editor. The code in 'set_5.py' is as follows:

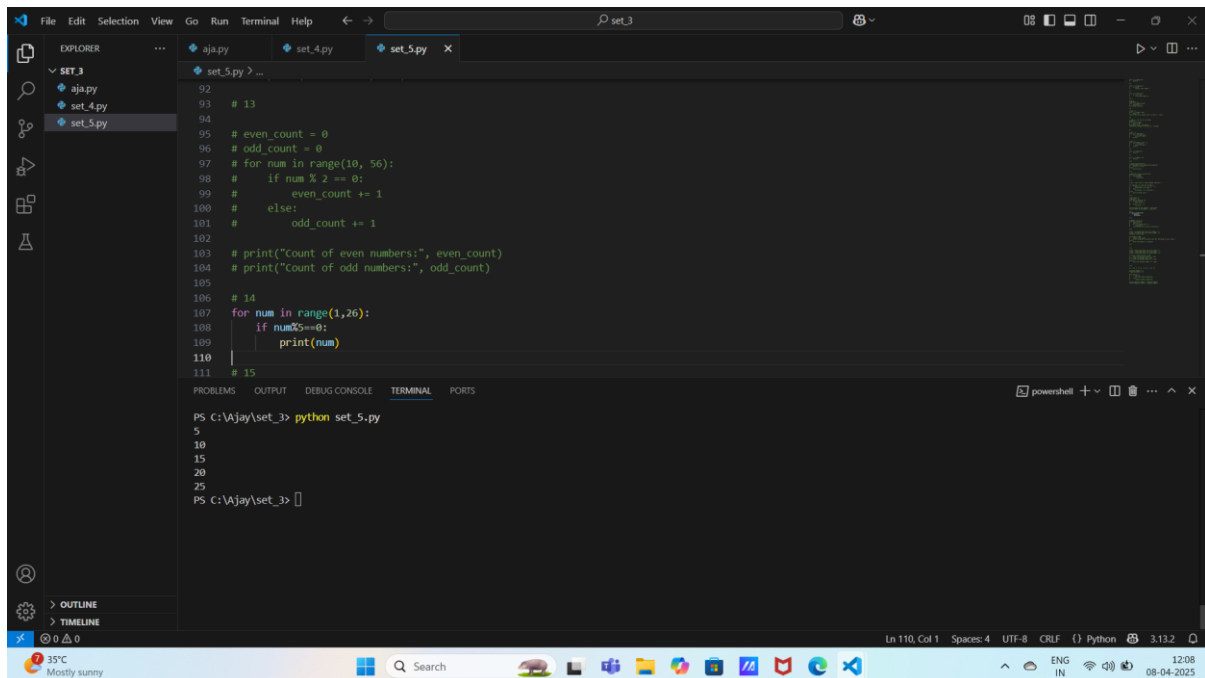
```
97  
98 # 13  
99  
100 even_count = 0  
101 odd_count = 0  
102 for num in range(10, 56):  
103     if num % 2 == 0:  
104         even_count += 1  
105     else:  
106         odd_count += 1  
107  
108 print("Count of even numbers:", even_count)  
109 print("Count of odd numbers:", odd_count)  
110
```

The Terminal pane at the bottom shows the command 'python set_5.py' being executed in a PowerShell window. The output is:

```
PS C:\Ajay\set_3> python set_5.py  
Count of even numbers: 23  
Count of odd numbers: 23  
PS C:\Ajay\set_3>
```

The status bar at the bottom indicates the file is at Line 107, Column 1, with 4 spaces, using UTF-8 encoding and CRLF line endings. The system tray shows a temperature of 29°C and a 'Partly cloudy' weather condition.

Question 14



The screenshot shows the Visual Studio Code interface. The Explorer pane on the left shows a project named 'set_3' containing files 'ajay.py', 'set_4.py', and 'set_5.py'. The 'set_5.py' file is open in the editor. The code in 'set_5.py' is as follows:

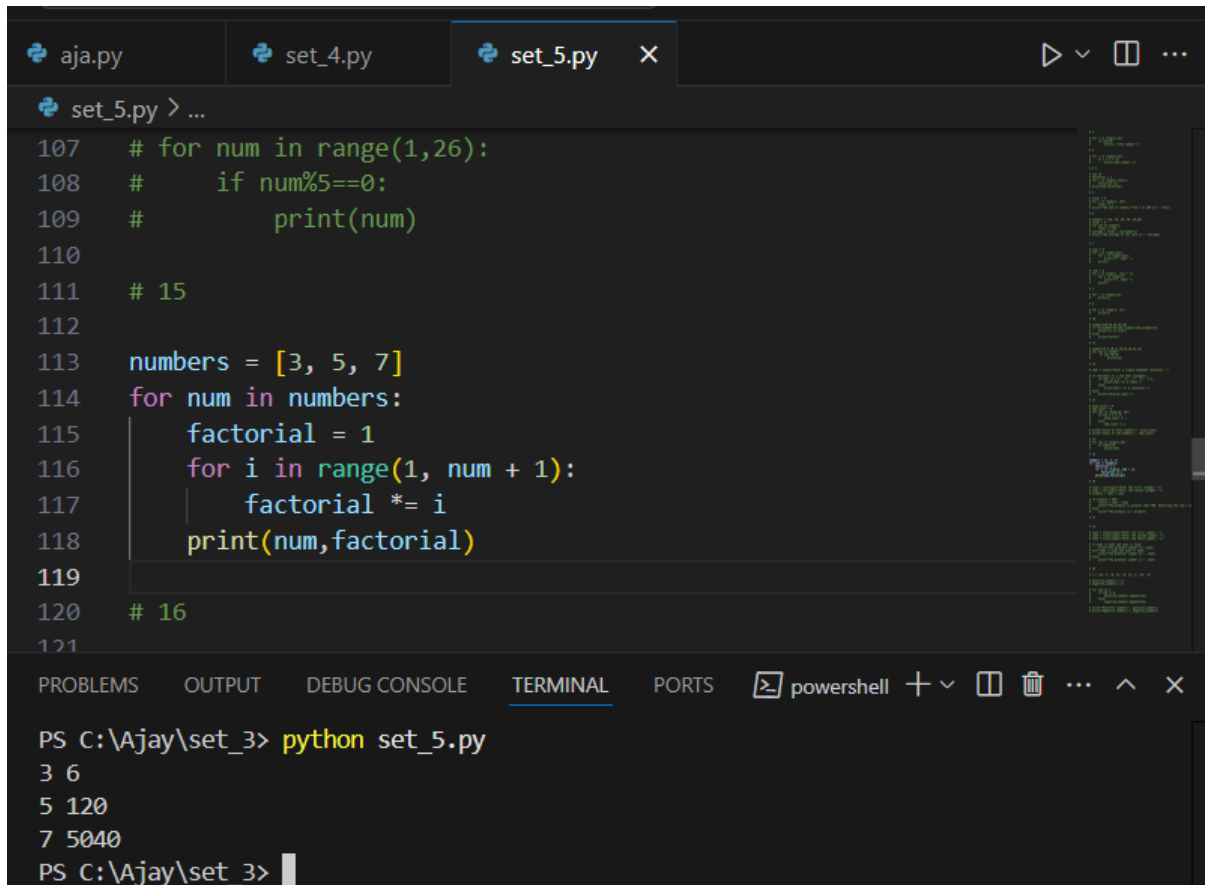
```
92  
93 # 13  
94  
95 # even_count = 0  
96 # odd_count = 0  
97 # for num in range(10, 56):  
98 #     if num % 2 == 0:  
99 #         even_count += 1  
100 #     else:  
101 #         odd_count += 1  
102  
103 # print("Count of even numbers:", even_count)  
104 # print("Count of odd numbers:", odd_count)  
105  
106 # 14  
107 for num in range(1, 26):  
108     if num % 5 == 0:  
109         print(num)  
110  
111 # 15
```

The Terminal pane at the bottom shows the command 'python set_5.py' being executed in a PowerShell window. The output is:

```
PS C:\Ajay\set_3> python set_5.py  
5  
10  
15  
20  
25  
PS C:\Ajay\set_3>
```

The status bar at the bottom indicates the file is at Line 110, Column 1, with 4 spaces, using UTF-8 encoding and CRLF line endings. The system tray shows a temperature of 35°C and a 'Mostly sunny' weather condition.

Question 15.

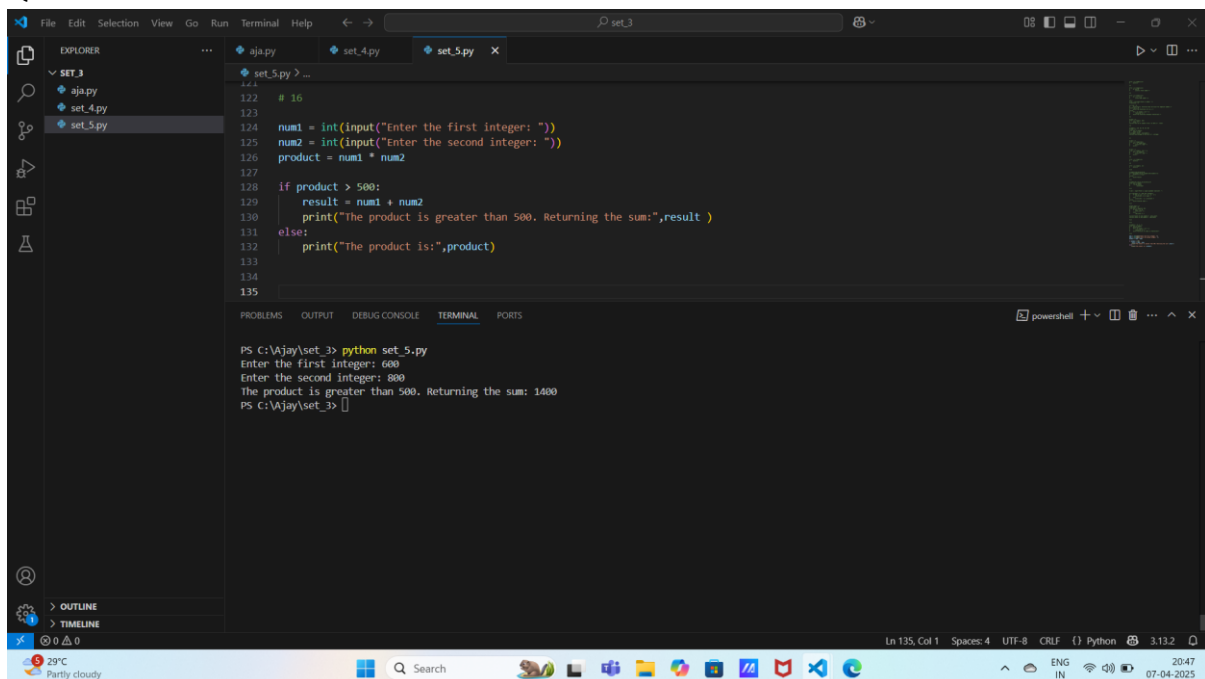


```
set_5.py > ...
107 # for num in range(1,26):
108 #     if num%5==0:
109 #         print(num)
110
111 # 15
112
113 numbers = [3, 5, 7]
114 for num in numbers:
115     factorial = 1
116     for i in range(1, num + 1):
117         factorial *= i
118     print(num,factorial)
119
120 # 16
121
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS powershell + -

```
PS C:\Ajay\set_3> python set_5.py
3 6
5 120
7 5040
PS C:\Ajay\set_3>
```

Question 16.



```
set_5.py > ...
122 # 16
123
124 num1 = int(input("Enter the first integer: "))
125 num2 = int(input("Enter the second integer: "))
126 product = num1 * num2
127
128 if product > 500:
129     result = num1 + num2
130     print("The product is greater than 500. Returning the sum:",result )
131 else:
132     print("The product is:",product)
133
134
135
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS powershell + -

```
PS C:\Ajay\set_3> python set_5.py
Enter the first integer: 600
Enter the second integer: 800
The product is greater than 500. Returning the sum: 1400
PS C:\Ajay\set_3>
```


Question 17.

The screenshot shows the Visual Studio Code interface with a Python file named `set_5.py` open. The code is as follows:

```
133
134 # 17
135
136 num1 = float(input("Enter the first number: "))
137 num2 = float(input("Enter the second number: "))
138
139 if num1 > num2:
140     print("The greater number is:", num1)
141 elif num2 > num1:
142     print("The greater number is:", num2)
143 else:
144     print("Both numbers are equal.")
145
146
```

The terminal output shows the execution of the script:

```
PS C:\VJ\set_3> python set_5.py
Enter the first number: 45
Enter the second number: 76
The greater number is: 76.0
PS C:\VJ\set_3>
```

Question 18.

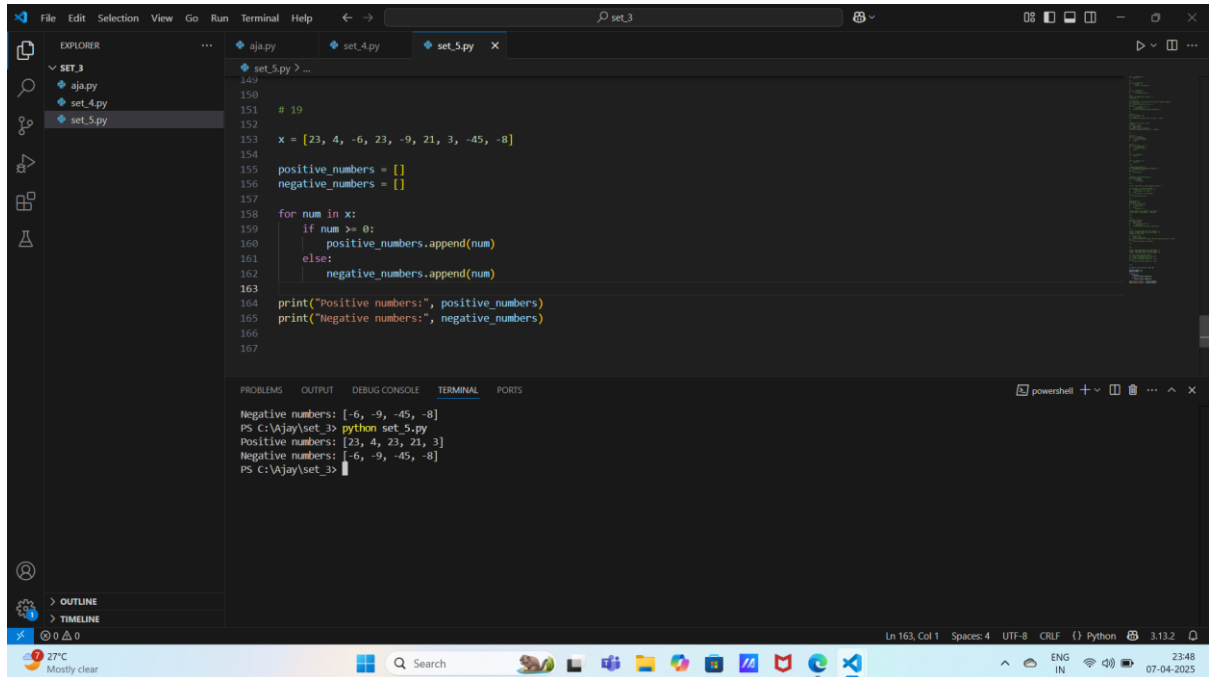
The screenshot shows the Visual Studio Code interface with a Python file named `set_5.py` open. The code is as follows:

```
138
139 num1 = float(input("Enter the first number: "))
140 num2 = float(input("Enter the second number: "))
141 num3 = float(input("Enter the third number: "))
142
143 if num1 >= num2 and num1 >= num3:
144     print("The greatest number is:", num1)
145 elif num2 >= num1 and num2 >= num3:
146     print("The greatest number is:", num2)
147 else:
148     print("The greatest number is:", num3)
149
150
```

The terminal output shows the execution of the script:

```
PS C:\VJ\set_3> python set_5.py
Enter the first number: 80
Enter the second number: 55
Enter the third number: 95
The greatest number is: 95.0
PS C:\VJ\set_3>
```

Question 19.



The screenshot shows a Visual Studio Code editor window with a Python file named `set_5.py` open. The file contains a list `x` and two empty lists, `positive_numbers` and `negative_numbers`. A `for` loop iterates over the elements of `x`, appending each element to either `positive_numbers` or `negative_numbers` based on whether it is greater than or equal to zero. The script then prints the contents of both lists.

```
149
150
151 # 19
152
153 x = [23, 4, -6, 23, -9, 21, 3, -45, -8]
154
155 positive_numbers = []
156 negative_numbers = []
157
158 for num in x:
159     if num >= 0:
160         positive_numbers.append(num)
161     else:
162         negative_numbers.append(num)
163
164 print("Positive numbers:", positive_numbers)
165 print("Negative numbers:", negative_numbers)
166
167
```

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

```
Negative numbers: [-6, -9, -45, -8]
PS C:\Ajay\set_3> python set_5.py
Positive numbers: [23, 4, 23, 21, 3]
Negative numbers: [-6, -9, -45, -8]
PS C:\Ajay\set_3>
```

The status bar at the bottom indicates the file is at line 163, column 1, with 4 spaces, using UTF-8 encoding and CR/LF line endings. The system tray shows a temperature of 27°C and the date 07-04-2025.