



Comsats University Islamabad, Lahore campus

PRACTISE QUESTIONS

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Section: BBA- B

Roll no: FA24-BBA-050

Course: Programming Language for Business Analytics

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1. Store your name and print it

```
Welcome | sadia exercise 1.py X
C: > Users > user > sadia exercise 1.py > ...
1  name = "sadia ejaz"
2  print (name)
3
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
sadia ejaz
PS C:\Users\user>
```

2. Store two numbers and print their sum

```
Welcome | sadia exercise 1.py X
C: > Users > user > sadia exercise 1.py > ...
1  a = 10
2  b = 6
3  print("sum:", a+b)
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
sum: 16
PS C:\Users\user>
```

3. Integer and float data types

```
Welcome | sadia exercise 1.py X
C: > Users > user > sadia exercise 1.py > ...
1  x = 7
2  y = 3.5
3  print(type(x))
4  print(type(y))
5
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
<class 'int'>
<class 'float'>
PS C:\Users\user>
```

4. String length

```
Welcome X | sadia exercise 1.py X
C: > Users > user > sadia exercise 1.py > ...
1  message = "Hello, Python"
2  print(len(message))
3
4
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
13
PS C:\Users\user>
```

5. Square of a number

```
Welcome | sadia exercise 1.py X
C: > Users > user > sadia exercise 1.py > ...
1 x = 6
2 print("square:",x**2)
3

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
square: 36
PS C:\Users\user>
```

6. Input and show data type

```
Welcome | sadia exercise 1.py X
C: > Users > user > sadia exercise 1.py > ...
1 user_input = input("enter a number: ")
2 print("Data type:", type(user_input))
3

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
enter a number: 6
Data type: <class 'str'>
PS C:\Users\user>
```

7. Boolean check

```
Welcome | sadia exercise 1.py X
C: > Users > user > sadia exercise 1.py > ...
1 is_active = True
2 if is_active:
3     print("The value is True")
4 else:
5     print("The value is False")
6

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
The value is True
PS C:\Users\user>
```

8. f-string formatting

```
Welcome x sadia exercise 1.py x
C: > Users > user > sadia exercise 1.py > ...
1  name = "Sadia"
2  age = 20
3  print(f"My name is {name} and I am {age} years old.")
4
5
6

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
My name is Sadia and I am 20 years old.
PS C:\Users\user>
```

9. Convert integer to float

```
Welcome x sadia exercise 1.py x
C: > Users > user > sadia exercise 1.py > ...
1  x = 10
2  x = float(x)
3  print(x)
4
5

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
10.0
PS C:\Users\user>
```

10. Complex number

```
Welcome x sadia exercise 1.py x
C: > Users > user > sadia exercise 1.py > ...
1  z = 3 + 4j
2  print("Real:", z.real)
3  print("Imaginary:", z.imag)
4
5

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Real: 3.0
Imaginary: 4.0
PS C:\Users\user>
```

11. Basic arithmetic

```
Welcome | sadia exercise 1.py X
C: > Users > user > sadia exercise 1.py > ...
1 a = 10
2 b = 3
3 print(a + b, a - b, a * b, a / b)
4 |
5
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
13 7 30 3.3333333333333335
PS C:\Users\user>
```

12. Floor division

```
Welcome X | sadia exercise 1.py X
C: > Users > user > sadia exercise 1.py
1 print(8 // 2)
2
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
4
PS C:\Users\user>
```

13. Modulus

```
Welcome | sadia exercise 1.py X
C: > Users > user > sadia exercise 1.py
1 print(6 % 4)
2
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

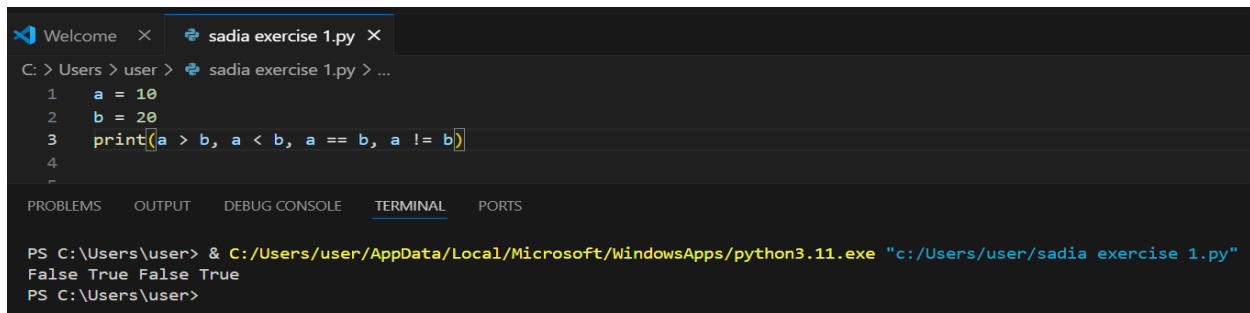
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
2
PS C:\Users\user>
```

14. Exponentiation

```
C: > Users > user > sadia exercise 1.py
1 print(2 ** 5)
2
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
32
PS C:\Users\user>
```

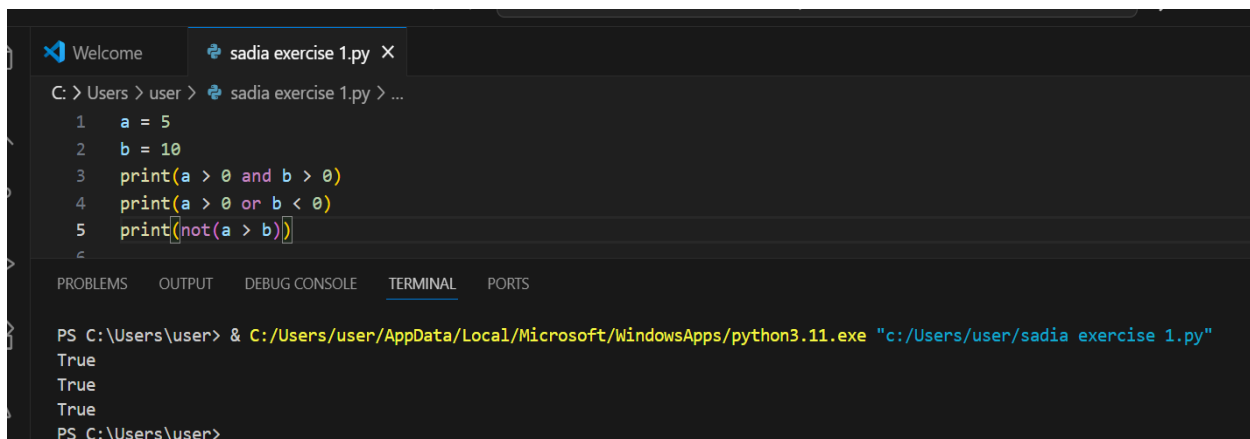
15. Comparison operators



```
1 a = 10
2 b = 20
3 print(a > b, a < b, a == b, a != b)

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
False True False True
PS C:\Users\user>
```

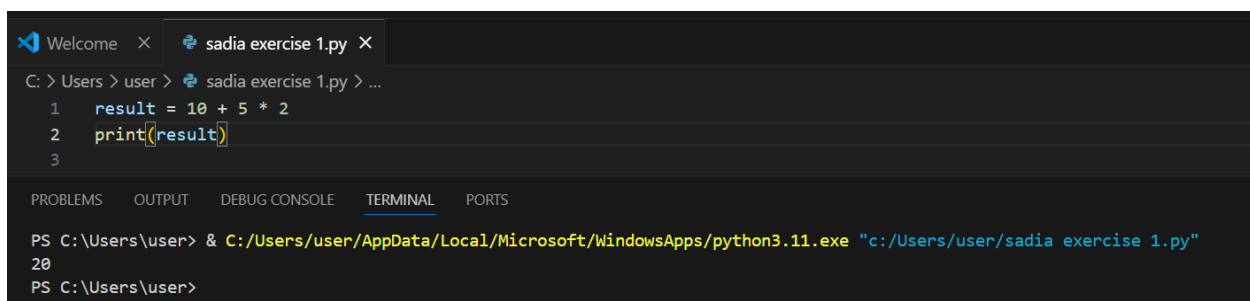
16. Logical operators



```
1 a = 5
2 b = 10
3 print(a > 0 and b > 0)
4 print(a > 0 or b < 0)
5 print(not(a > b))

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
True
True
True
PS C:\Users\user>
```

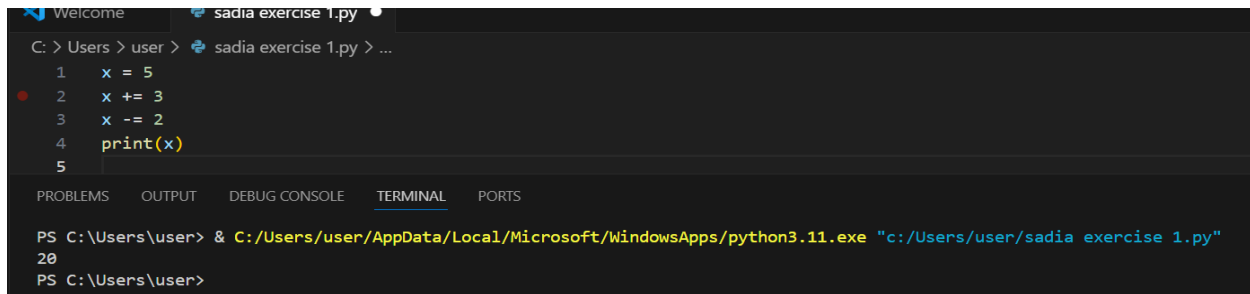
17. Operator precedence



```
1 result = 10 + 5 * 2
2 print(result)

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
20
PS C:\Users\user>
```

18. Compound assignment



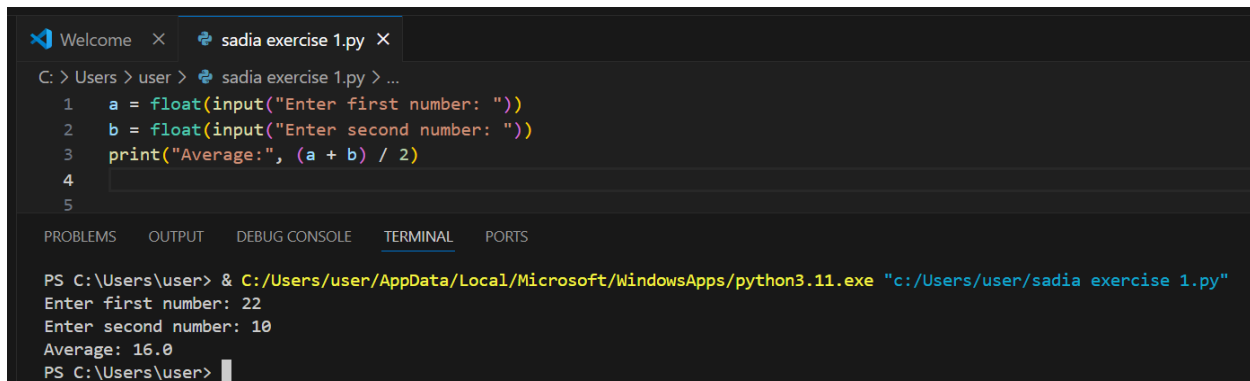
The screenshot shows a Python IDE with a file named 'sadia exercise 1.py'. The code in the editor is:

```
1 x = 5
2 x += 3
3 x -= 2
4 print(x)
5
```

The terminal output shows the command to run the script and the result:

```
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
20
PS C:\Users\user>
```

19. Average of two numbers



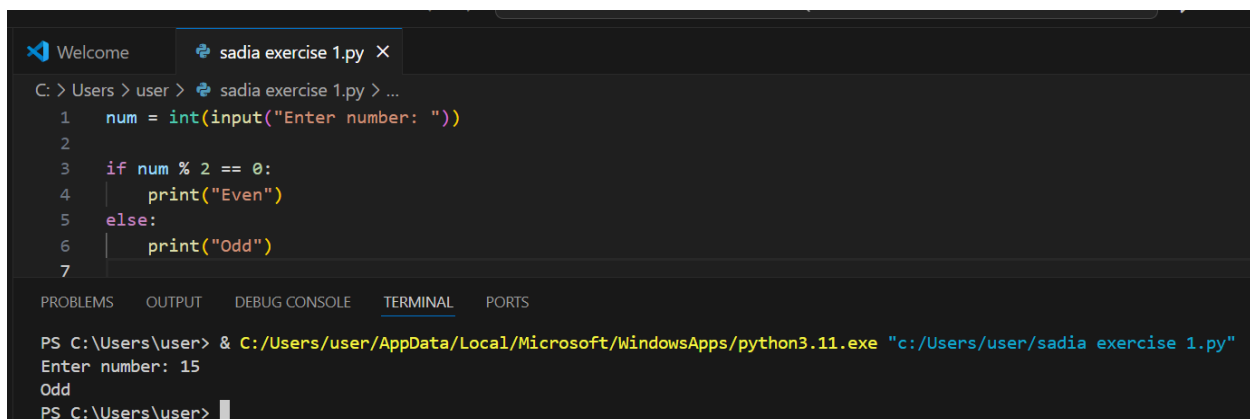
The screenshot shows a Python IDE with a file named 'sadia exercise 1.py'. The code in the editor is:

```
1 a = float(input("Enter first number: "))
2 b = float(input("Enter second number: "))
3 print("Average:", (a + b) / 2)
4
5
```

The terminal output shows the command to run the script and the user input:

```
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Enter first number: 22
Enter second number: 10
Average: 16.0
PS C:\Users\user>
```

20. Even or odd (ternary operator)



The screenshot shows a Python IDE with a file named 'sadia exercise 1.py'. The code in the editor is:

```
1 num = int(input("Enter number: "))
2
3 if num % 2 == 0:
4     print("Even")
5 else:
6     print("Odd")
7
```

The terminal output shows the command to run the script and the user input:

```
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Enter number: 15
Odd
PS C:\Users\user>
```

21. Positive, negative, or zero

```
Welcome sadia exercise 1.py X
C: > Users > user > sadia exercise 1.py > ...
1  num = int(input("Enter number: "))
2  if num > 0:
3      print("Positive")
4  elif num < 0:
5      print("Negative")
6  else:
7      print("Zero")

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Enter number: 12
Positive
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Enter number: 11
Positive
PS C:\Users\user> 
```

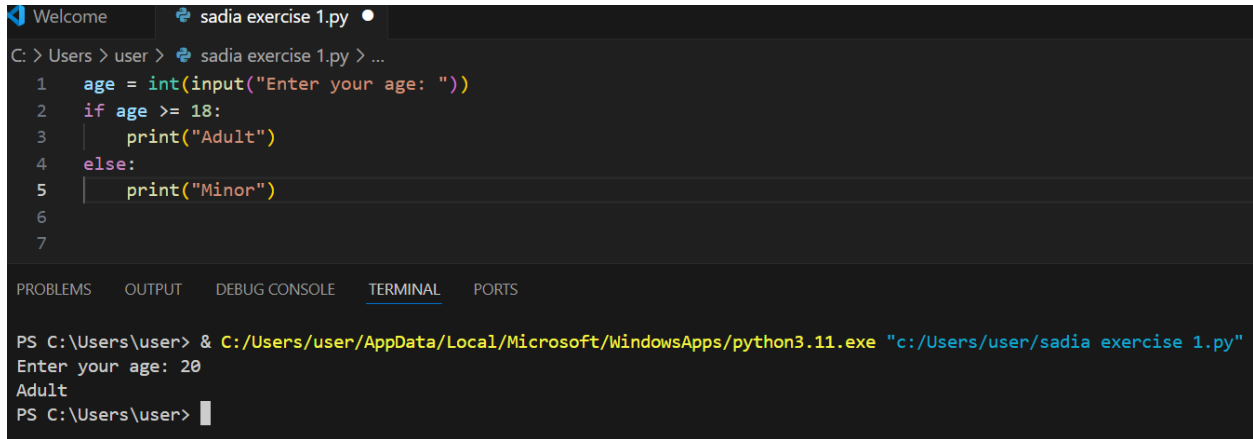
22. Even or odd (if-else)

```
Welcome sadia exercise 1.py
C: > Users > user > sadia exercise 1.py > ...
1  num = int(input("Enter number: "))
2  if num % 2 == 0:
3      print("Even")
4  else:
5      print("Odd")
6
7

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Enter number: 18
Even
PS C:\Users\user> 
```


23. Adult or minor



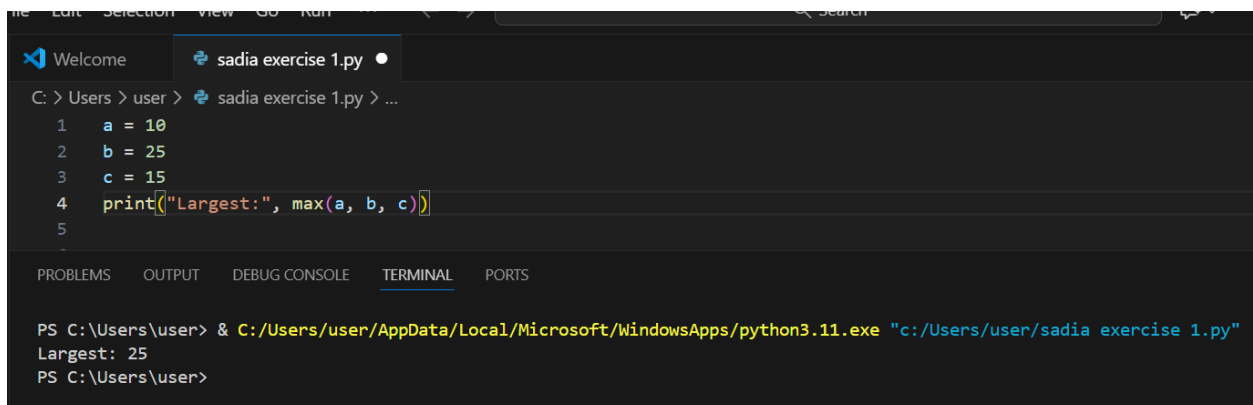
The screenshot shows a Python IDE with a file named 'sadia exercise 1.py'. The code in the editor is as follows:

```
1 age = int(input("Enter your age: "))
2 if age >= 18:
3     print("Adult")
4 else:
5     print("Minor")
6
7
```

The terminal window at the bottom shows the command to run the script and the output:

```
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Enter your age: 20
Adult
PS C:\Users\user>
```

24. Largest of three numbers



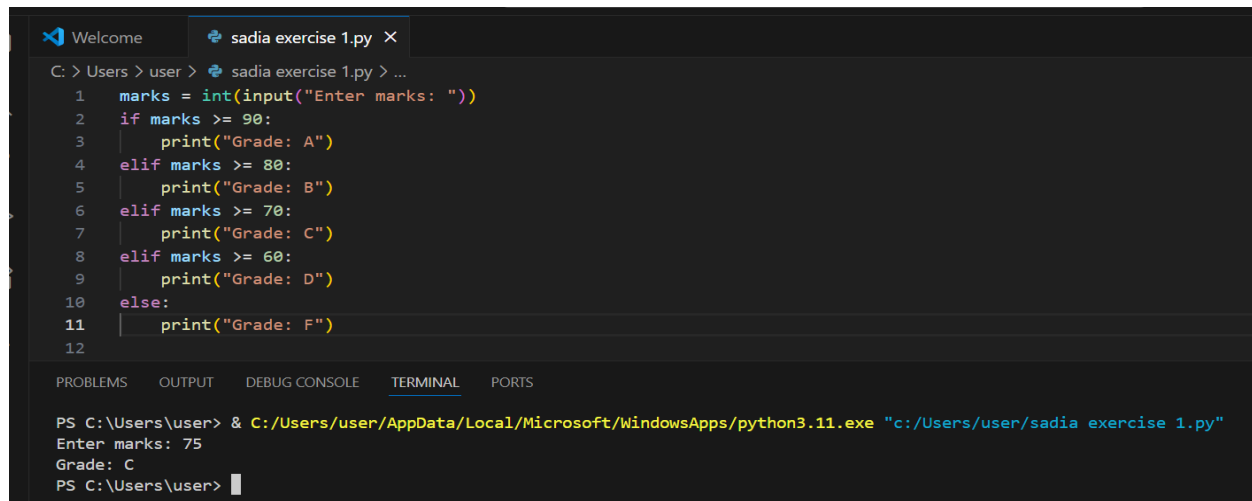
The screenshot shows a Python IDE with a file named 'sadia exercise 1.py'. The code in the editor is as follows:

```
1 a = 10
2 b = 25
3 c = 15
4 print("Largest:", max(a, b, c))
5
```

The terminal window at the bottom shows the command to run the script and the output:

```
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Largest: 25
PS C:\Users\user>
```

25. Grade system



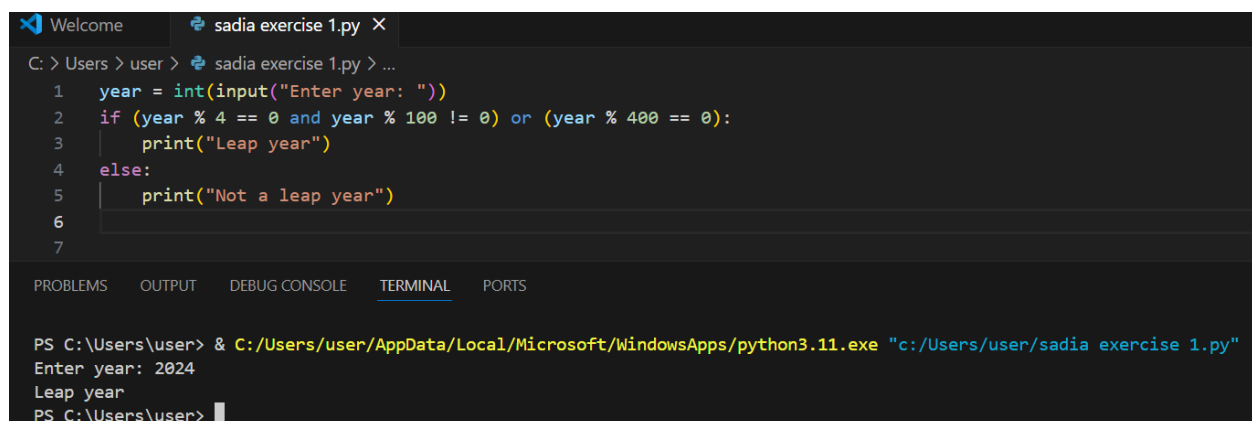
The screenshot shows a VS Code editor with a file named 'sadia exercise 1.py'. The code is a Python script that takes an input 'marks' and prints a grade based on the following conditions: marks >= 90 (Grade: A), marks >= 80 (Grade: B), marks >= 70 (Grade: C), marks >= 60 (Grade: D), and otherwise (Grade: F). The terminal at the bottom shows the command to run the script, the input '75', and the output 'Grade: C'.

```
1 marks = int(input("Enter marks: "))
2 if marks >= 90:
3     print("Grade: A")
4 elif marks >= 80:
5     print("Grade: B")
6 elif marks >= 70:
7     print("Grade: C")
8 elif marks >= 60:
9     print("Grade: D")
10 else:
11     print("Grade: F")
12
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Enter marks: 75
Grade: C
PS C:\Users\user>

26. Leap year



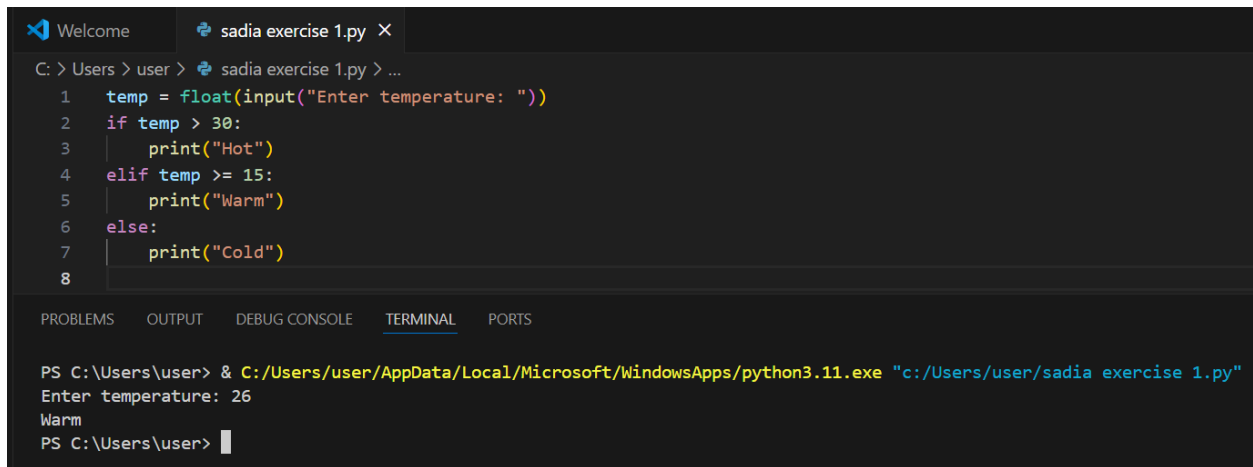
The screenshot shows a VS Code editor with a file named 'sadia exercise 1.py'. The code is a Python script that takes an input 'year' and prints 'Leap year' if the year is a leap year (year % 4 == 0 and year % 100 != 0 or year % 400 == 0), otherwise it prints 'Not a leap year'. The terminal at the bottom shows the command to run the script, the input '2024', and the output 'Leap year'.

```
1 year = int(input("Enter year: "))
2 if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
3     print("Leap year")
4 else:
5     print("Not a leap year")
6
7
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Enter year: 2024
Leap year
PS C:\Users\user>

27. Temperature condition



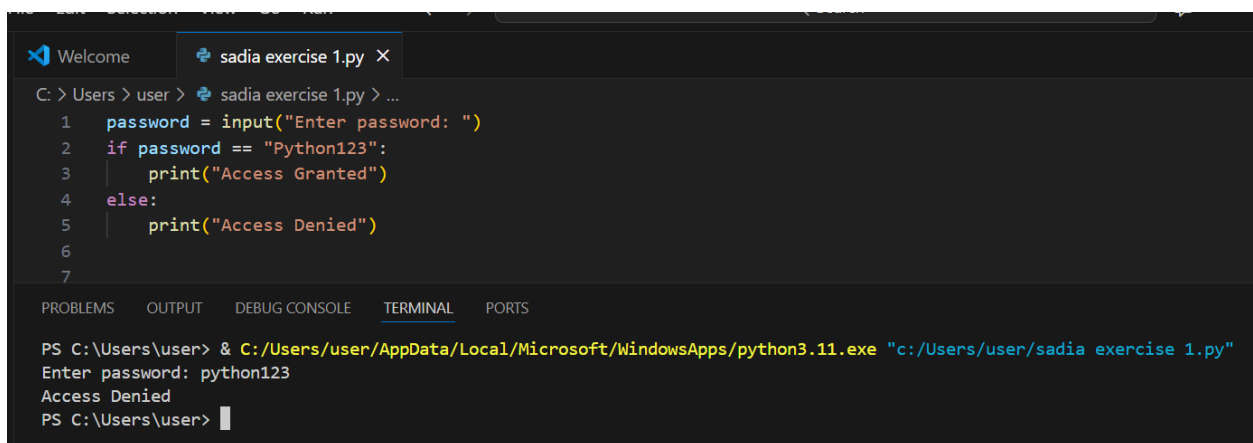
The image shows a Visual Studio Code window with a file named 'sadia exercise 1.py'. The code is a Python script that takes a temperature input and prints a corresponding status. The terminal shows the command to run the script, the input '26', and the output 'Warm'.

```
1 temp = float(input("Enter temperature: "))
2 if temp > 30:
3     print("Hot")
4 elif temp >= 15:
5     print("Warm")
6 else:
7     print("Cold")
8
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Enter temperature: 26
Warm
PS C:\Users\user>

28. Password check



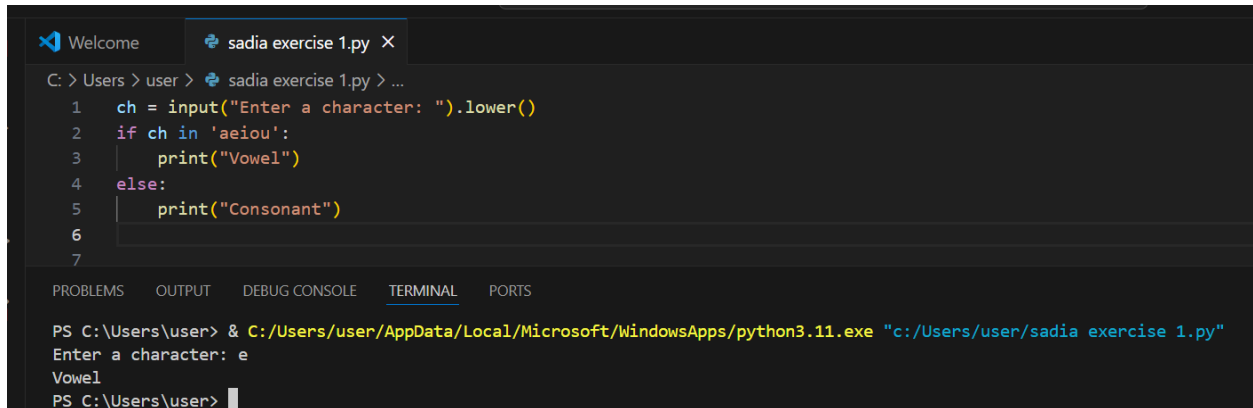
The image shows a Visual Studio Code window with a file named 'sadia exercise 1.py'. The code is a Python script that takes a password input and prints 'Access Granted' or 'Access Denied' based on whether it matches 'Python123'. The terminal shows the command to run the script, the input 'python123', and the output 'Access Denied'.

```
1 password = input("Enter password: ")
2 if password == "Python123":
3     print("Access Granted")
4 else:
5     print("Access Denied")
6
7
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Enter password: python123
Access Denied
PS C:\Users\user>

29. Vowel or consonant



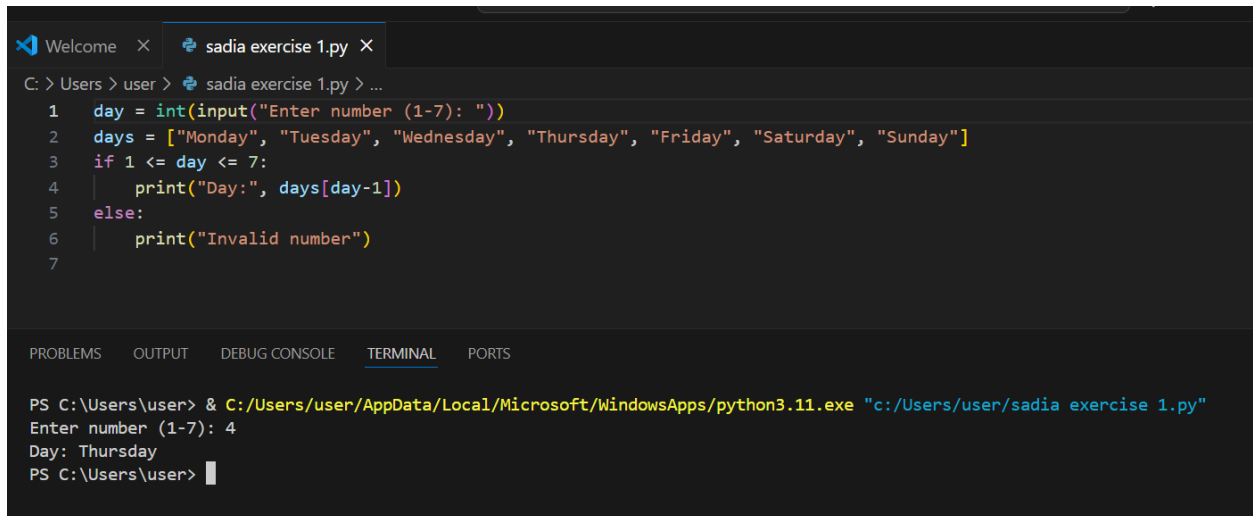
The screenshot shows a Python IDE with a file named 'sadia exercise 1.py'. The code is as follows:

```
1 ch = input("Enter a character: ").lower()
2 if ch in 'aeiou':
3     print("Vowel")
4 else:
5     print("Consonant")
6
7
```

The terminal output shows the command to run the file and the execution result:

```
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Enter a character: e
Vowel
PS C:\Users\user>
```

30. Day of the week



The screenshot shows a Python IDE with a file named 'sadia exercise 1.py'. The code is as follows:

```
1 day = int(input("Enter number (1-7): "))
2 days = ["Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday", "Sunday"]
3 if 1 <= day <= 7:
4     print("Day:", days[day-1])
5 else:
6     print("Invalid number")
7
```

The terminal output shows the command to run the file and the execution result:

```
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
Enter number (1-7): 4
Day: Thursday
PS C:\Users\user>
```

31–40: List exercises

```
Welcome sadia exercise 1.py
C: > Users > user > sadia exercise 1.py > ...
1  fruits = ["apple", "banana", "cherry"]
2  print(fruits)
3
4  fruits.append("orange")
5  fruits.remove("banana")
6  print(fruits)
7
8  numbers = [1, 2, 3, 4, 5]
9  print(sum(numbers))
10 print("Max:", max(numbers))
11 print("Min:", min(numbers))
12
13 print(numbers[:3])
14 print(numbers[-3:])
15
16 numbers[2] = 10
17 print(numbers)
18
19 numbers.reverse()
20 print(numbers)
21
22 print(numbers.count(10))
23
24 list1 = [1, 2, 3]
25 list2 = [4, 5]
26 print(list1 + list2)
27
28 squares = [x ** 2 for x in range(1, 11)]
29 print(squares) |
30
```

(31-40) Output

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
['apple', 'banana', 'cherry']
['apple', 'cherry', 'orange']
15
Max: 5
Min: 1
[1, 2, 3]
[3, 4, 5]
[1, 2, 10, 4, 5]
[5, 4, 10, 2, 1]
1
[1, 2, 3, 4, 5]
[1, 4, 9, 16, 25, 36, 49, 64, 81, 100]
PS C:\Users\user>
```

41–45: Tuple exercises

```

Welcome | sadia exercise 1.py x
C: > Users > user > sadia exercise 1.py > ...
1  t = (10, 20, 30, 20)
2  print(t)
3
4  a, b, c, d = t
5  print(a, b, c, d)
6
7  print(t.index(20))
8  print(t.count(20))
9
10 temp = list(t)
11 temp[1] = 99
12 t = tuple(temp)
13 print(t)
14
15 t1 = (1, 2)
16 t2 = (3, 4)
17 print(t1 + t2)
18

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\user> & C:/Users/user/AppData/Local/Microsoft/WindowsApps/python3.11.exe "c:/Users/user/sadia exercise 1.py"
(10, 20, 30, 20)
10 20 30 20
1
2
(10, 99, 30, 20)
(1, 2, 3, 4)
PS C:\Users\user>
```