

# Assignment – 4.5

Hall Ticket No.: 2303A510D9

Bt– 29

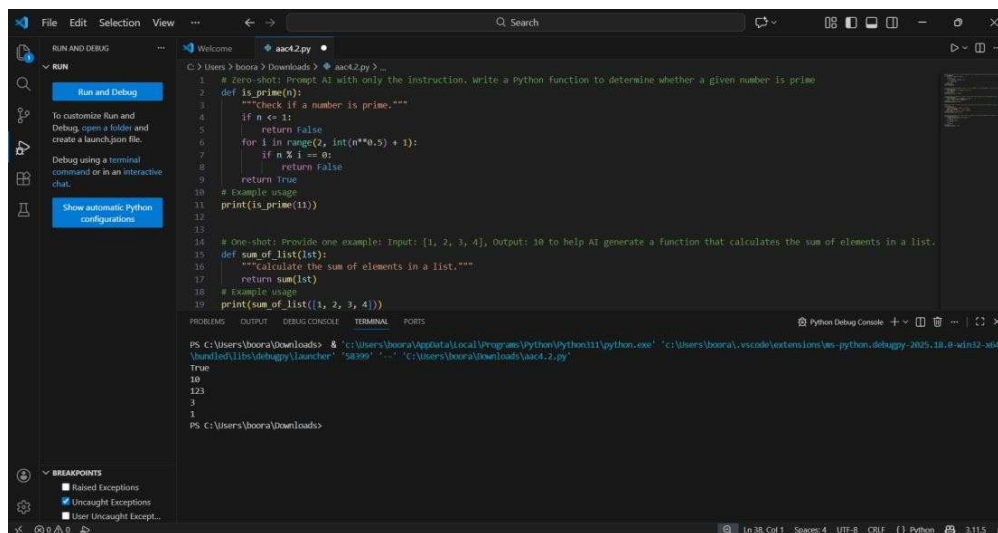
## Task Description-1

- Zero-shot: Prompt AI with only the instruction. Write a Python function to determine whether a given number is prime

## Expected Output-1

- A basic Python function to check if a number is prime, demonstrating correct logical conditions without relying on examples or additional context

## CODE & OUTPUT



```
File Edit Selection View ... Search
Welcome
C:\Users\boora> Downloads > aac42.py > ...
1 # Zero-shot: Prompt AI with only the instruction. Write a Python function to determine whether a given number is prime
2 def is_prime(n):
3     """Check if a number is prime."""
4     if n <= 1:
5         return False
6     for i in range(2, int(n**0.5) + 1):
7         if n % i == 0:
8             return False
9     return True
10 # Example usage
11 print(is_prime(11))
12
13
14 # One-shot: Provide one example: Input: [1, 2, 3, 4], Output: 10 to help AI generate a function that calculates the sum of elements in a list.
15 def sum_of_list(lst):
16     """Calculate the sum of elements in a list."""
17     return sum(lst)
18 # Example usage
19 print(sum_of_list([1, 2, 3, 4]))
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PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
Python Debug Console
PS C:\Users\boora\Downloads> & "C:\Users\boora\AppData\Local\Programs\Python\Python111\python.exe" "C:\Users\boora\.vscode\extensions\ms-python.debugpy-2025.18.0-win32-x64\bin\libs\debugpy\launcher" "58399" "..." "C:\Users\boora\Downloads\aac42.py"
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PS C:\Users\boora\Downloads>
BREAKPOINTS
[ ] Raised Exceptions
[ ] Uncaught Exceptions
[ ] User Uncaught Except...
```

OUTPUT - True

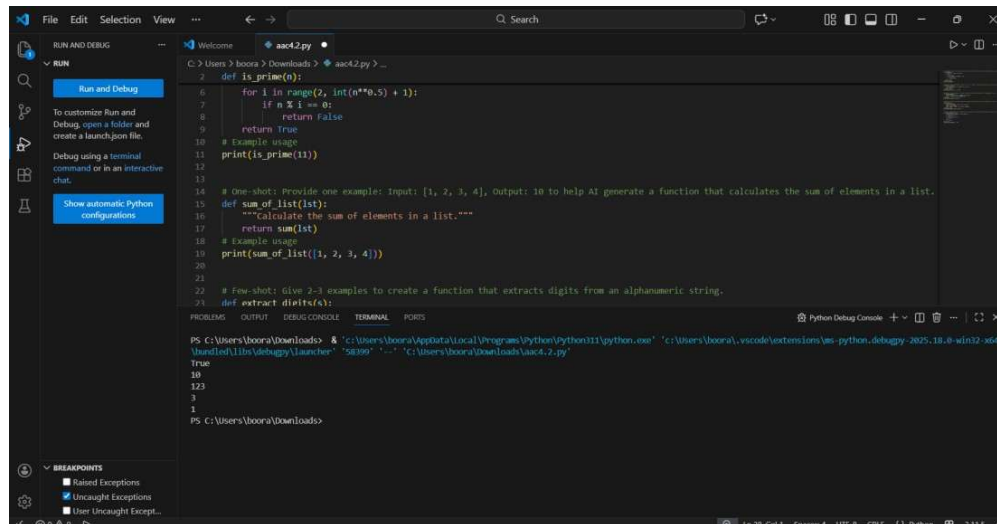
## Task Description-2

- One-shot: Provide one example: Input: [1, 2, 3, 4], Output: 10 to help AI generate a function that calculates the sum of elements in a list.

## Expected Output-2

- A correct conversion function guided by the single example.

## CODE & OUTPUT



```
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C:\Users\boora> Downloads > aac42.py > ...

2 def is_prime(n):
3     for i in range(2, int(n**0.5) + 1):
4         if n % i == 0:
5             return False
6         return True
7     # Example usage
8     print(is_prime(11))
9
10 # One-shot: Provide one example: Input: [1, 2, 3, 4], Output: 10 to help AI generate a function that calculates the sum of elements in a list.
11 def sum_of_list(list):
12     """Calculate the sum of elements in a list."""
13     return sum(list)
14     # Example usage
15     print(sum_of_list([1, 2, 3, 4]))
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17 # Few-shot: Give 2-3 examples to create a function that extracts digits from an alphanumeric string.
18 def extract_digits(s):
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Python Debug Console

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PS C:\Users\boora\Downloads> & "c:\Users\boora\AppData\Local\Programs\Python\Python311\python.exe" "c:\Users\boora\.vscode\extensions\ms-python.debugpy-2025.18.8-win32-x64\bundled\lib\debugpy\launcher" "58390" "-" "c:\Users\boora\Downloads\aac42.py"
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PS C:\Users\boora\Downloads>
```

## OUTPUT - 10

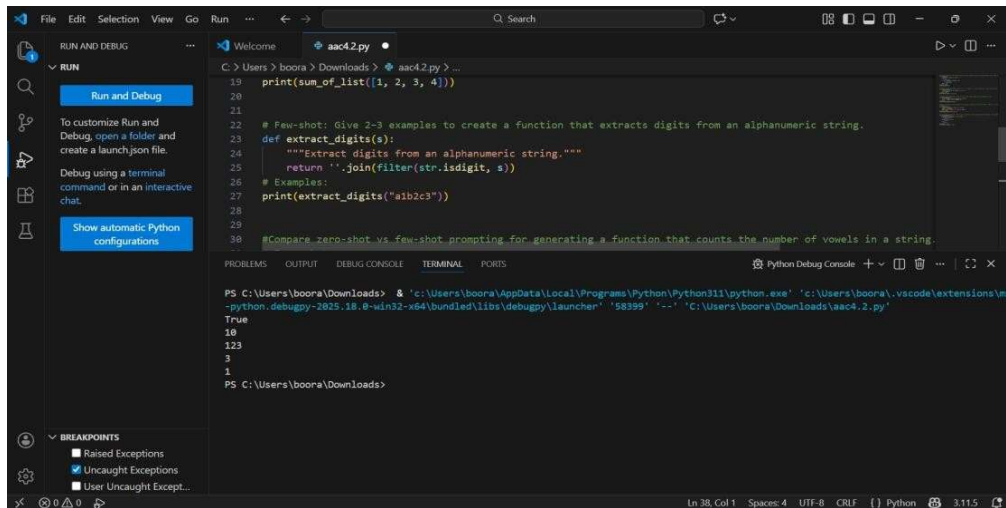
## Task Description-3

- Few-shot: Give 2–3 examples to create a function that extracts digits from an alphanumeric string.

## Expected Output-3

- Accurate function that returns only the digits from alphanumeric string.

## CODE & OUTPUT



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C:\Users\boora> Downloads > aac42.py > ...
19 print(sum_of_list([1, 2, 3, 4]))
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22 # Few-shot: Give 2-3 examples to create a function that extracts digits from an alphanumeric string.
23 def extract_digits(s):
24     """Extract digits from an alphanumeric string."""
25     return ''.join(filter(str.isdigit, s))
26 # Examples:
27 print(extract_digits("a1b2c3"))
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30 # Compare zero-shot vs. few-shot prompting for generating a function that counts the number of vowels in a string.
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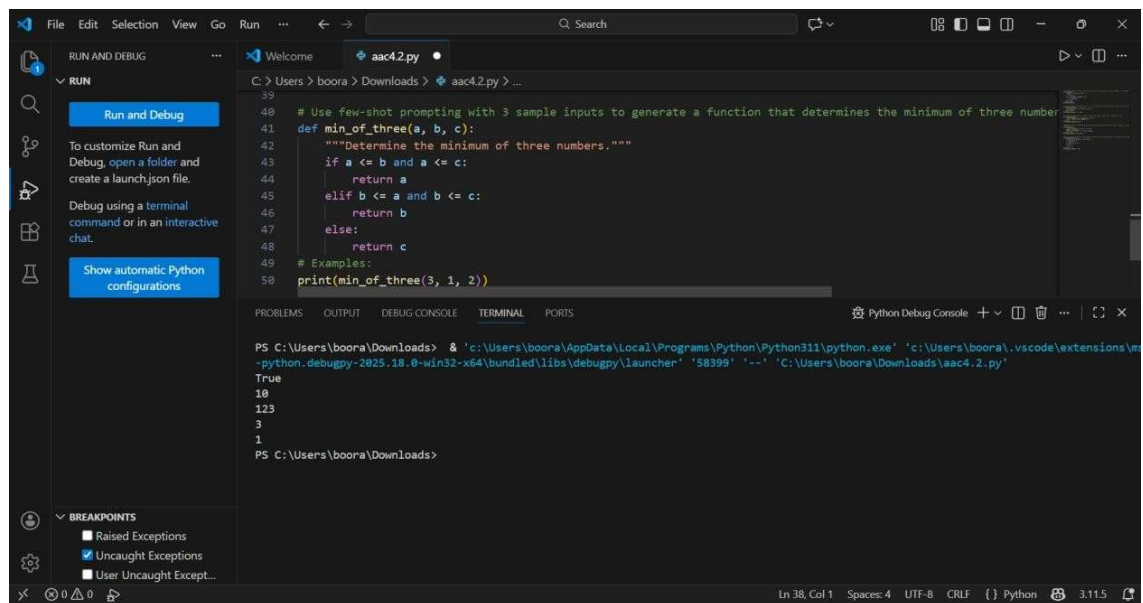
## Task Description-5

- Use few-shot prompting with 3 sample inputs to generate a function that determines the minimum of three numbers without using the built-in min() function.

## Expected Output-5

- A function that handles all cases with correct logic based on example patterns.

## CODE & OUTPUT



The screenshot shows the Visual Studio Code interface with a Python file named `aac4.2.py` open. The code defines a function `min_of_three(a, b, c)` that finds the minimum of three numbers using conditional logic. The terminal shows the command to run the script, which outputs the result of the function call.

```
39
40
41 # Use few-shot prompting with 3 sample inputs to generate a function that determines the minimum of three number
42 def min_of_three(a, b, c):
43     """Determine the minimum of three numbers."""
44     if a <= b and a <= c:
45         return a
46     elif b <= a and b <= c:
47         return b
48     else:
49         return c
50 # Examples:
51 print(min_of_three(3, 1, 2))
```

```
PS C:\Users\boora\Downloads> & 'c:\Users\boora\AppData\Local\Programs\Python\Python311\python.exe' 'c:\Users\boora\.vscode\extensions\ms-python.debugpy-2025.18.0-win32-x64\bundle\libs\debugpy\launcher' '58399' '-.' 'C:\Users\boora\Downloads\aac4.2.py'
True
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123
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PS C:\Users\boora\Downloads>
```

## OUTPUT - 1