

# LAB ASSIGNMENT-3.4

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BATCH-10

## ➤ TASK-1:

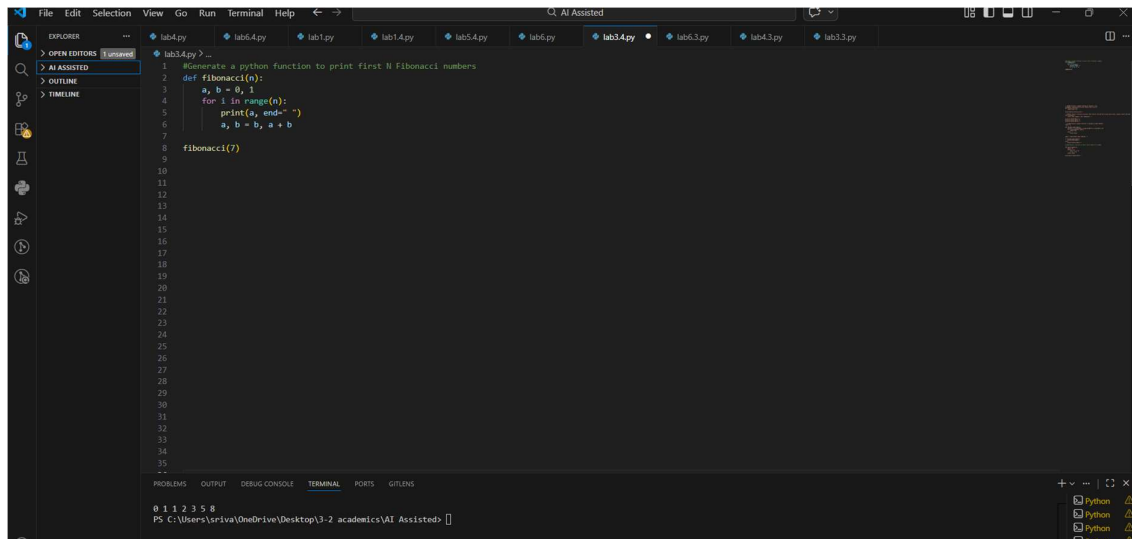
### **PROMPT:**

Generate a python function to print first N Fibonacci numbers.

### **CODE:**

```
def fibonacci(n):  
    a, b = 0, 1  
  
    for i in range(n):  
        print(a, end=" ")  
        a, b = b, a + b  
  
fibonacci(7)
```

### **OUTPUT:**



### **EXPLANATION:**

The function generates Fibonacci numbers using two variables.

A loop runs N times and prints numbers one by one.

## ❖ TASK-2

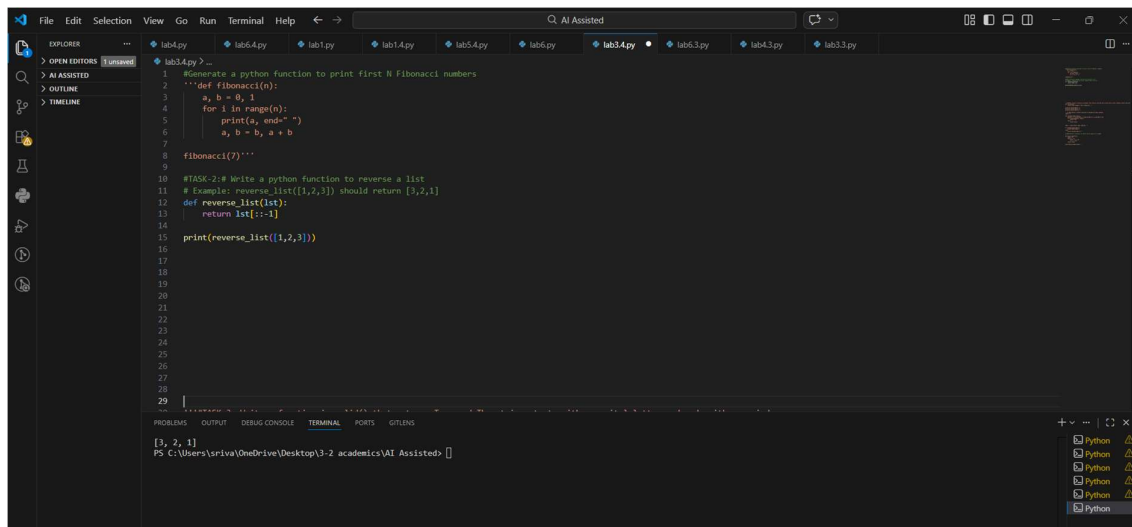
### PROMPT:

Write a python function to reverse a list.

### CODE:

```
def reverse_list(lst):  
    return lst[::-1]  
  
print(reverse_list([1,2,3]))
```

### OUTPUT:



The screenshot shows a Visual Studio Code editor window with a Python file named 'lab34.py'. The code defines a function 'reverse\_list' that takes a list 'lst' and returns its reverse using slicing 'lst[::-1]'. It then prints the result of 'reverse\_list([1,2,3])'. The terminal at the bottom shows the output '[3, 2, 1]'.

```
1 # generate a python function to print first N Fibonacci numbers  
2  
3 def fibonacci(n):  
4     a, b = 0, 1  
5     for i in range(n):  
6         print(a, end=" ")  
7         a, b = b, a + b  
8  
9 fibonacci(7)  
10  
11 # TASK-2: Write a python function to reverse a list  
12 # Example: reverse_list([1,2,3]) should return [3,2,1]  
13 def reverse_list(lst):  
14     return lst[::-1]  
15  
16 print(reverse_list([1,2,3]))  
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```

Terminal Output:  
[3, 2, 1]  
PS C:\Users\sriya\OneDrive\Desktop\3-2 academics\AI Assisted>

### EXPLANATION:

The function reverses the given list.

It uses slicing method to change order of elements.

The output list is returned in reverse format.

### ❖ TASK-3:

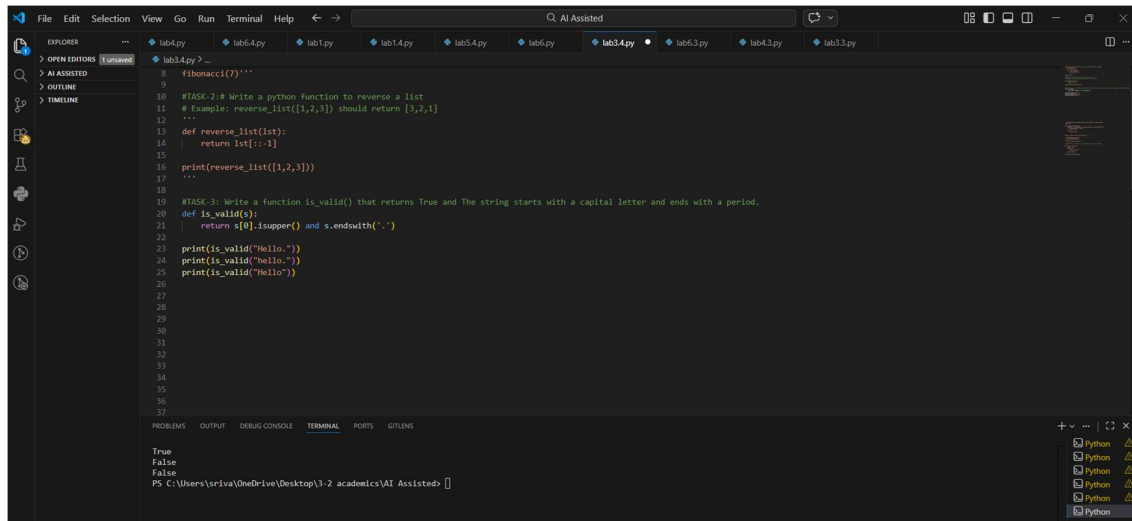
#### PROMPT:

Write a function `is_valid()` that returns True and The string starts with a capital letter and ends with a period.

#### CODE:

```
def is_valid(s):  
    return s[0].isupper() and s.endswith('.')  
  
print(is_valid("Hello."))  
  
print(is_valid("hello."))  
  
print(is_valid("Hello"))
```

#### OUTPUT:



The screenshot shows a VS Code editor with a Python file named `lab34.py`. The code defines a function `is_valid(s)` that returns `s[0].isupper() and s.endswith('.')`. It then prints the results of `is_valid("Hello.")`, `is_valid("hello.")`, and `is_valid("Hello")`. The terminal at the bottom shows the output: `True`, `False`, and `False`.

```
File Edit Selection View Go Run Terminal Help  
lab34.py  
8 fibonacci(7)'''  
9  
10 #TASK-2# Write a python function to reverse a list  
11 # Example: reverse_list([1,2,3]) should return [3,2,1]  
12 '''  
13 def reverse_list(list):  
14     return list[::-1]  
15  
16 print(reverse_list([1,2,3]))  
17  
18  
19 #TASK-3# Write a function is_valid() that returns True and The string starts with a capital letter and ends with a period.  
20 def is_valid(s):  
21     return s[0].isupper() and s.endswith('.')  
22  
23 print(is_valid("Hello."))  
24 print(is_valid("hello."))  
25 print(is_valid("Hello"))  
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PS C:\Users\sriva\OneDrive\Desktop\3-2 academics\VAI Assisted>
```

#### EXPLANATION:

- The function checks whether the first letter is capital.
- It also checks whether the string ends with a period.
- Both conditions must be true to return True.

### TASK-4:

**PROMPT:**

Write a python function to validate an email address.

**CODE:**

```
import re
```

```
def validate_email(email):
```

```
pattern = r"^[a-zA-Z0-9_.-]+@[a-zA-Z0-9-]+\.[a-zA-Z0-9-.]+$"
```

```
if re.match(pattern, email):
```

```
return True
```

```
else:
```

```
return False
```

```
email = input("Enter email address: ")
```

```
if validate_email(email):
```

```
print("Valid Email")
```

```
else:
```

```
print("Invalid Email")
```

**OUTPUT:**

The image shows a Visual Studio Code editor with a Python file named `lab34.py` open. The script defines a function `is_valid(s)` that checks if a string starts with a capital letter and ends with a period. It also includes a task instruction to write a function to validate an email address. The terminal window shows the execution of the script, which prompts for an email address and outputs "Valid Email".

```
File Edit Selection View Go Run Terminal Help
lab4.py lab5.py lab1.py lab1.py lab5.py lab6.py lab34.py X lab3.py lab3.py lab3.py
EXPLORER
  OPEN EDITORS
  AI ASSISTED
  OUTLINE
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  PS C:\Users\sriva\OneDrive\Desktop\3-2 academics\AI Assisted> C:\Users\sriva\AppData\Local\Programs\Python\Python313\python.exe C:\Users\sriva\OneDrive\Desktop\3-2 academics\AI Assisted\lab34.py
Enter email address: srivashabab@gmail.com
Valid Email
```

```
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16 print(reverse_list([1,2,3]))
17 ...
18 ...
19 #TASK-3: Write a function is_valid() that returns True and The string starts with a capital letter and ends with a period.
20 def is_valid(s):
21     return s[0].isupper() and s.endswith('.')
22
23 print(is_valid("Hello.."))
24 print(is_valid("hello.."))
25 print(is_valid("Hello"))
26 ...
27 # TASK-4: Write a python function to validate an email address
28 import re
29
30
31 def validate_email(email):
32     pattern = r'^[a-zA-Z0-9_+]+@[a-zA-Z0-9-]+\.[a-zA-Z0-9-]+$',s"
33     if re.match(pattern, email):
34         return True
35     else:
36         return False
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39 email = input("Enter email address: ")
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41 if validate_email(email):
42     print("Valid Email")
43 else:
44     print("Invalid Email")
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```

**EXPLANATION:**

- The function checks whether the first letter is capital.

- It also checks whether the string ends with a period.
- Both conditions must be true to return True.

### ❖ Task-5

#### PROMPT:

Write a function to return sum of digits of a number

#### CODE:

```
def sum_of_digits(n):

    total = 0

    while n > 0:

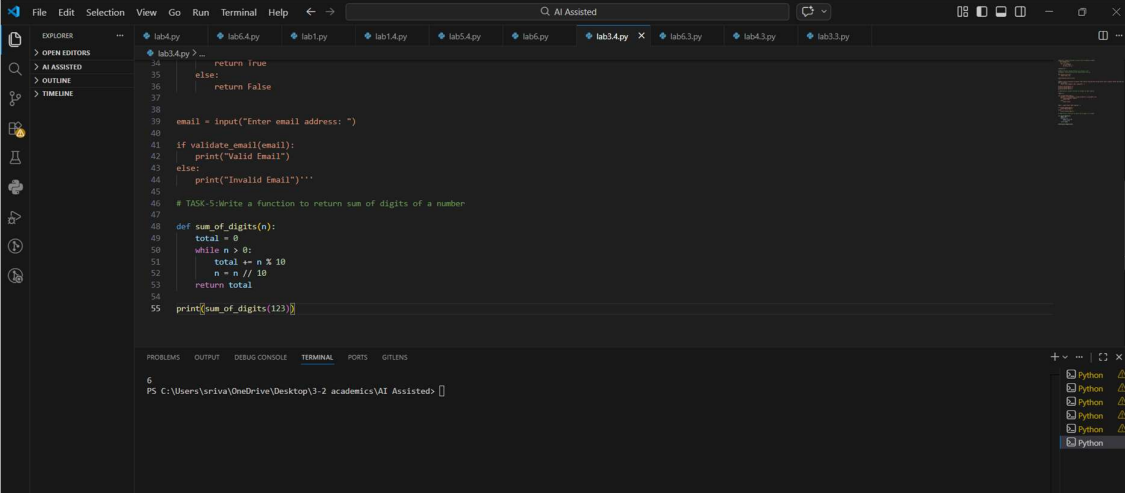
        total += n % 10

        n = n // 10

    return total

print(sum_of_digits(123))
```

#### OUTPUT:



The screenshot shows a code editor with a dark theme. The main editor window displays the Python code for the sum\_of\_digits function. The code includes a comment for Task-5 and a print statement to test the function with the number 123. The terminal at the bottom shows the command prompt and the output of the program, which is 6. The file explorer on the left shows several files named lab1.py through lab6.py. The right sidebar shows a list of Python files with warning icons.

```
File Edit Selection View Go Run Terminal Help
lab1.py lab64.py lab1.py lab14.py lab54.py lab6.py lab14.py x lab63.py lab63.py lab63.py
EXPLORER
> OPEN EDITORS
> AI ASSISTED
> OUTLINE
> TIMELINE
lab34.py > ...
34     return True
35     else:
36         return False
37
38
39 email = input("Enter email address: ")
40
41 if validate_email(email):
42     print("Valid Email")
43 else:
44     print("Invalid Email")'''
45
46 # TASK-5:Write a function to return sum of digits of a number
47
48 def sum_of_digits(n):
49     total = 0
50     while n > 0:
51         total += n % 10
52         n = n // 10
53     return total
54
55 print(sum_of_digits(123))

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS GIT LENS
6
PS C:\Users\sriva\OneDrive\Desktop\3-2 academics\AI Assisted>
```

#### EXPLANATION:

- The function extracts digits using loop.
- Each digit is added to total sum.
- Finally the sum of digits is returned.