

Assignment 6.2

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Batch – 04

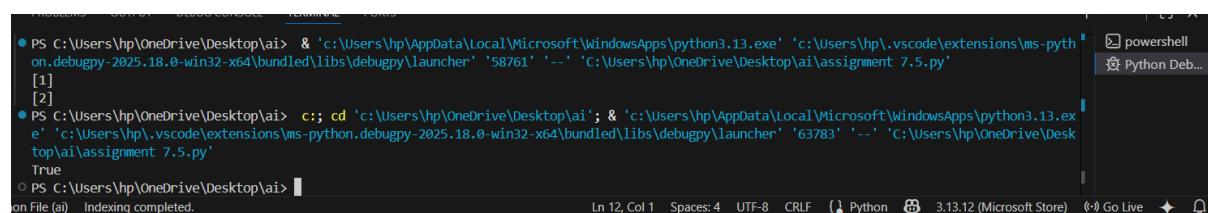
Task 1: (Classes – Data Validation)

- Prompt AI to generate a Student class with attributes: name, roll_no, and marks. Add a method is_pass() that returns whether the student has passed (marks ≥ 40).

```
1  class Student:
2      def __init__(self, name, roll_no, marks):
3          self.name = name
4          self.roll_no = roll_no
5          self.marks = marks
6
7      def is_pass(self):
8          return self.marks >= 40
9
10 s1 = Student("Priya", 1194, 65)
11 print(s1.is_pass())
12
```

Expected Output-1

- Python class with constructor and validation logic
- Clear method implementation returning pass/fail status
- Students analyze correctness and clarity of class design



A screenshot of a terminal window titled "powershell". The command entered is:

```
PS C:\Users\hp\OneDrive\Desktop\ai> & 'c:\Users\hp\AppData\Local\Microsoft\WindowsApps\python3.13.exe' 'c:\Users\hp\.vscode\extensions\ms-python.python-2025.18.0-win32-x64\bundled\libs\debugpy\launcher' '58761' '--' 'c:\Users\hp\OneDrive\Desktop\ai\assignment 7.5.py'
```

The output shows two lines of code being run:

```
[1]
[2]
```

Then it shows:

```
PS C:\Users\hp\OneDrive\Desktop\ai> c:> cd 'c:\Users\hp\OneDrive\Desktop\ai'; & 'c:\Users\hp\AppData\Local\Microsoft\WindowsApps\python3.13.exe' 'c:\Users\hp\.vscode\extensions\ms-python.debugpy-2025.18.0-win32-x64\bundled\libs\debugpy\launcher' '63783' '--' 'c:\Users\hp\OneDrive\Desktop\ai\assignment 7.5.py'
```

Followed by:

```
True
```

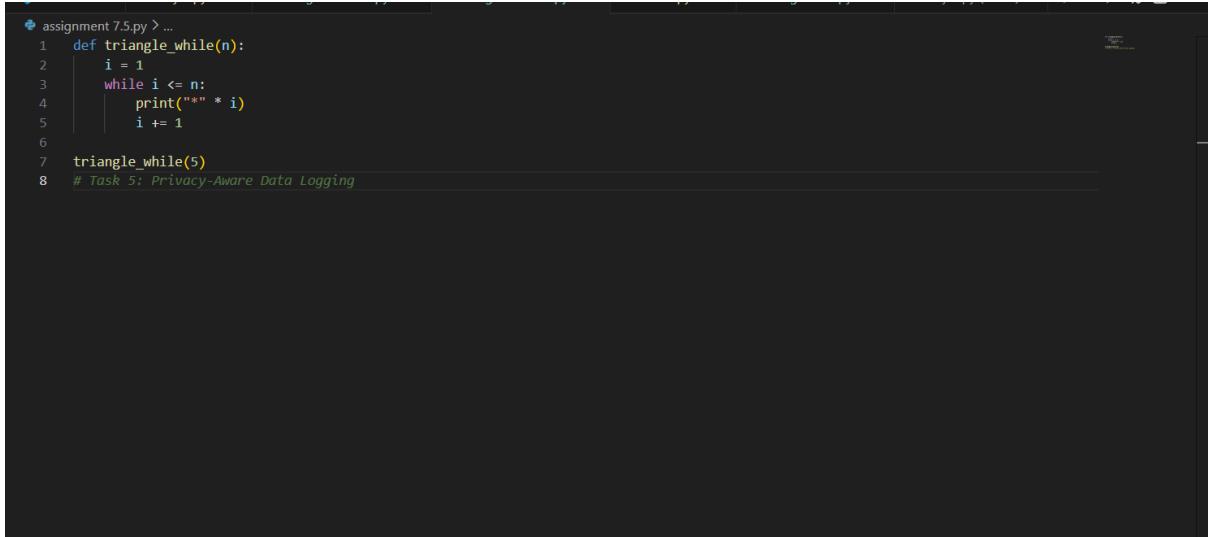
Finally, it shows:

```
PS C:\Users\hp\OneDrive\Desktop\ai>
```

At the bottom, there is status information: "In 12, Col 1 Spaces: 4 UTF-8 CRLF { Python 3.13.12 (Microsoft Store) ⌂ Go Live ⌂".

Task 2: (Loops – Pattern Generation)

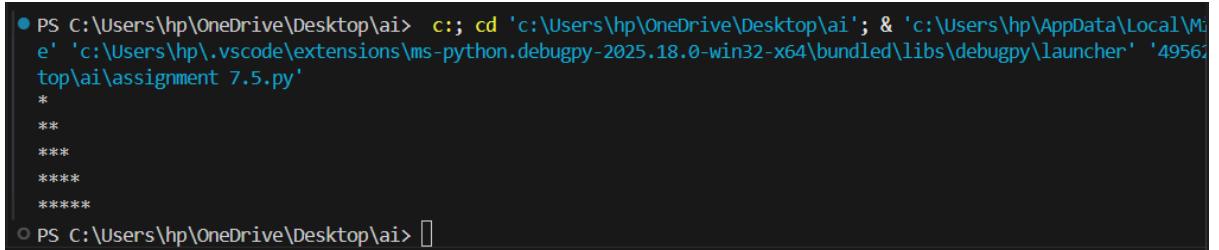
Ask AI to generate a function that prints a right-angled triangle star pattern using a for loop. Then regenerate the same pattern using a while loop.



```
assignment 7.5.py > ...
1 def triangle_while(n):
2     i = 1
3     while i <= n:
4         print("*" * i)
5         i += 1
6
7 triangle_while(5)
8 # Task 5: Privacy-Aware Data Logging
```

Output-2

- Correct pattern output using both loop types
- Logical loop structure with proper conditions



```
PS C:\Users\hp\OneDrive\Desktop\ai> c;; cd 'c:\Users\hp\OneDrive\Desktop\ai'; & 'c:\Users\hp\AppData\Local\Microsoft\VSCode\extensions\ms-python.debugpy-2025.18.0-win32-x64\bundled\libs\debugpy\launcher' '49562\top\ai\assignment 7.5.py'
*
**
***
****
*****
```

Task 3: (Conditional Statements – Number Analysis)

Ask AI to write a function that checks whether a given number is positive, negative, or zero using if-elif-else. Test the function with multiple inputs.

```
assignment 7.5.py > ...
1  def check_number(num):
2      if num > 0:
3          return "Positive"
4      elif num < 0:
5          return "Negative"
6      else:
7          return "Zero"
8
9  print(check_number(10))
10 print(check_number(-5))
11 print(check_number(0))
12 |
```

Output-3

- Function correctly classifies numbers
- Proper handling of all conditions
- Students analyze decision logic

```
PS C:\Users\hp\OneDrive\Desktop\ai> cd 'c:\Users\hp\OneDrive\Desktop\ai'; & 'c:\Users\hp\AppData\Local\Microsoft\Visual Studio\2022\Community\Extensions\ms-python.python-2023.18.0-win32-x64\bundled\libs\debugpy\launcher' '53948\top\ai\assignment 7.5.py'
Positive
Negative
Zero
PS C:\Users\hp\OneDrive\Desktop\ai> [REDACTED]
```

Task 4: (Nested Conditionals)

Generate a function `check_discount(age, is_member)` that

determines discount eligibility:

- Age $\geq 60 \rightarrow$ Senior discount
- Member \rightarrow Additional discount

Use nested if statements.

```
assignment 7.5.py > ...
1 def check_discount(age, is_member):
2     if age >= 60:
3         if is_member:
4             return "Senior + Member Discount"
5         else:
6             return "Senior Discount"
7     else:
8         if is_member:
9             return "Member Discount"
10        else:
11            return "No Discount"
12
13 print(check_discount(65, True))
14 print(check_discount(30, False))
15 # Task 5: Privacy-Aware Data Logging
```

Output-4

- Python code using nested conditionals
- Clear explanation of decision flow

```
PS C:\Users\hp\OneDrive\Desktop\ai> c;; cd 'c:\Users\hp\OneDrive\Desktop\ai'; & 'c:\Users\hp\AppData\Local\Microsoft\WindowsApps\python3.13.exe' 'c:\Users\hp\.vscode\extensions\ms-python.debugpy-2025.18.0-win32-x64\bundled\libs\debugpy\launcher' '56979' '--' 'C:\Users\hp\OneDrive\Desktop\ai\assignment 7.5.py'
Senior + Member Discount
No Discount
PS C:\Users\hp\OneDrive\Desktop\ai>
```

Task 5: (Class – Mathematical Opera)

- Ask AI to create a Circle class with methods to calculate area () and circumference () given the radius.

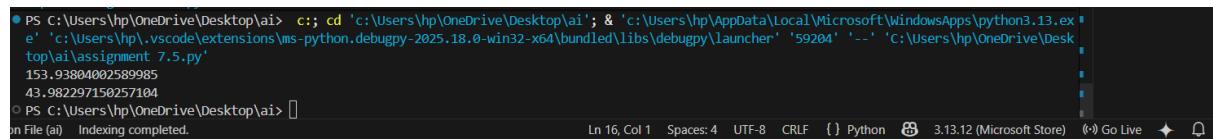
```
assignment 7.5.py > ...
1 import math
2
3 class Circle:
4     def __init__(self, radius):
5         self.radius = radius
6
7     def area(self):
8         return math.pi * self.radius * self.radius
9
10    def circumference(self):
11        return 2 * math.pi * self.radius
12
13 c = Circle(7)
14 print(c.area())
15 print(c.circumference())
16 # Task 5: Privacy-Aware Data Logging
```

Output-5

- Correct mathematical computation

- Well-structured class with methods

- Code explanation provided



The screenshot shows a code editor interface with a terminal window at the bottom. The terminal window displays the following command-line session:

```
● PS C:\Users\hp\OneDrive\Desktop\ai> c;; cd 'c:\Users\hp\OneDrive\Desktop\ai'; & 'c:\Users\hp\AppData\Local\Microsoft\WindowsApps\python3.13.exe' 'c:\Users\hp\.vscode\extensions\ms-python.debugpy-2025.18.0-win32-x64\bundled\libs\debugpy\launcher' '59204' '--' 'C:\Users\hp\OneDrive\Desktop\ai\assignment_7.5.py'
153.93804002589985
43.98297150257104
○ PS C:\Users\hp\OneDrive\Desktop\ai> []
In File [ai] Indexing completed.
```

The status bar at the bottom of the terminal window shows the following information: Ln 16, Col 1, Spaces: 4, UTF-8, CRLF, {}, Python, 3.13.12 (Microsoft Store), Go Live, and a refresh icon.