Python aasignment(3-07-25)

1. **Assign the price and quantity of two products. Calculate the total cost including 18% tax. Print a detailed bill.**

Price1=100

Quantity1=2

Price2=50

Quantity2=2

>>[(price1\*quantity1)+(price2\*quantiy2)]\*18/100

[(100\*2+50\*2)]0.18

>>(200+100)0.18

>>54{tax}

>>300+54=354

**3. Compute the perimeter and area of a circle given a radius. Use the value of π from the math module.**

Radius =5

Math pi =3.14

Area of circle=math pi\*radius\*\*2

Perimeter of circle=2 \*math pi \* radius

Print(area of circle)

Print(perimeter of circle)

>>78.5

>>31.4

1. **What is a compiled language? What is an interpreted language?  
    Explain pros and cons of each. How hybrid languages bring in advantages of both.**

A compiled language is translated entirely into machine code by a compiler before execution. The result is a standalone executable file.

Examples:

C, C++, Rust, Go

Pros:

Faster Execution: Runs quickly because it’s already translated into machine code.

Optimized Performance: Compilers can optimize code for better performance.

No Need for Source Code at Runtime: Users only need the compiled binary.

Cons:

Slower Development Cycle: Must recompile after every change.

Platform Dependency: Compiled code is often OS-specific.

>>An interpreted language is executed line-by-line by an interpreter at runtime.

Examples:

Python, JavaScript, Ruby

Pros:

Faster Development: No need to compile; test code instantly.

Platform Independent: Just need the interpreter on the system.

Great for Scripting and Rapid Prototyping

Cons:

Slower Execution: Interpretation at runtime adds overhead.

Requires Source Code: Users need access to source or interpreter to run.

**6. Draw the diagram of how a Python program is executed.**

