Python Programming Concepts & Exercises

1. Given the total seconds, compute and print equivalent hours, minutes, and seconds using arithmetic operations.

Total\_ seconds=3600

hours=total\_ seconds//3600

minutes=(total\_seconds%3600)//60

seconds=total\_seconds%60

print(f"{hours}h{minutes}m{seconds}s")

**output:**

1h 0m 0sec

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

p1=60

q1=2

p2=70

q2=1

subtotal=(p1\*q1)+(p2\*q2)

tax=subtotal\*0.18

total=subtotal+tax

print("subtotal",subtotal)

print("tax",tax)

print("total",total)

**output**:

subtotal 190

tax 34.199999999999996

total 224.2

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

import math

r=6

area=2 \* math. pi\*r

perimeter= math.pi \* r\*\*2

print(area)

print(perimeter)

**output:**

1. 37.69911184307752
2. 113.09733552923255

4. Given a temperature in Celsius, convert it to Fahrenheit using the formula and print both values.  
 (F = C × 9/5 + 32)

c=40

f=c\*9/5+32

print(c)

print(f)

**output:**

40

104.0

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

**Complied language:**

The code is converted into a machine language code before the execution

**Advantages:** 1. Code privacy

2.Faster execution

**Disadvantages:** 1. Portability

2. No flexibility

**Interpreted language:**

In this code is executed line by line using the interpreter. No separate compilation is needed.

**Advantages:** 1. Portability

2.Easy debugging

**Disadvantages**: 1. No code privacy

2.Slower execution

Hybrid language combine both aspects of both compiled and interpreter language.

1. Draw the diagram of how a Python program is executed.
2. 