

Python Programming Concepts & Exercises

1. Given the total seconds, compute and print equivalent hours, minutes, and seconds using arithmetic operations.
 - a. total seconds :180

```
hours=180//3600
```

```
seconds=180%3600
```

```
minutes=180//60
```

```
seconds=180%60
```

```
print(sec)
```

```
print(minute,"minute")
```

```
print(hour,"hour")
```

output:

0seconds

3 minutes

0 hours

2. Assign the price and quantity of two products. Calculate the total cost including 18% tax. Print a detailed bill.
 - A. product1=250

```
quantity1=2
```

```
product2=100
```

```
quantity2=2
```

```
total cost =(product1*quantity1)+(product2*quantity2)
```

```
tax=total cost*18/100
```

```
print(total cost)
```

```
print(total tax)
```

output:

700

126

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

```
Pie =3.14
```

```
Radius =7
```

```
Perimeter of circle = 2*pie*radus
```

```
Print(radius,"radius")
```

```
Print(perimeter,"perimeter")
```

Output:

7

43.96

4. Given a temperature in Celsius, convert it to Fahrenheit using the formula and print both values.

$$(F = C \times 9/5 + 32)$$

```
Celsius=32
```

```
Fahrenheit=(F=C*9/5+32)
```

```
Print(thetemperatureincelsius,"Celsius")
```

```
Print(thetemperatureinfahrenheit,"Fahrenheit")
```

Output:

32C

89.6F

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.

Compiled language: A compiled language is one where entire code is translated into executable file into machine language using compiler ie binary form. eg: c,c++

Pros:

#Execution is faster

#code privacy

Cons:

#portability issues

#nt flexible to changes

Interpreted language :An Interpreted language is one where the code is executed line by line by an interpreter during runtime. Eg:javascript,python.

Pros:

#easier to debug and test.

#platform independent

Cons:

#slwer execution

#requires an interpreter installation.

Hybrid :

Hybrid languages uses both interpretation and compailation typically,the code is first compiled into intermediate code (byte code) then interpreted or run virtually .

Hence python falls under both compilation and interpretation .

The bytecode cant be run directly and interpreter is required to run.

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