

Experiment 1:
Performing Arithmetic Operations using Python & Solving multi-step problems using variables

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Aim:

Run and execute the following word problem using Arithmetic Operators in Python

Objective:

The objective is to learn the use of Python as a calculator and solve the word problem using various arithmetic functions like addition (+), subtraction (-), multiplication (×) and division (÷).

Problem Statement:

1] The population of a town is 198568. Out of them 45312 are men and 35678 are women. Find the number of children in the town.

output :

```
In [1]: # PROBLEM 1
# The population of a town is 198568. Out of them 45312 are men and 35678 are women. Find the number of children in the town.

#assigning variables for given data

total_population_of_the_town = 198568
population_of_men = 45312
population_of_women = 35678

#calculating the number of children in the town

population_of_children = (total_population_of_the_town - (population_of_men + population_of_women))

#output

print(" The Number of children in the town are" , population_of_children)

The Number of children in the town are 117578
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2] A shopkeeper has 2425 boxes of 24 pencils each. How many pencils do all the boxes have in all?

output :

```
In [2]: # PROBLEM 2
# A shopkeeper has 2425 boxes of 24 pencils each. How many pencils do all the boxes have in all?

#assigning variables for the given data

total_number_of_pencil_boxes = 2425
number_of_pencils_in_each_boxes = 24

#calculating the total number of pencil in all the boxes

total_pencils_in_all_the_boxes = total_number_of_pencil_boxes * number_of_pencils_in_each_boxes

#output

print("total number of pencils in all the boxes" , total_pencils_in_all_the_boxes )

total number of pencils in all the boxes 58200
```

3] There are 86 rooms in a school. 4356 students study there. Equal number of students sit in each room. Find the number of students sitting in one room?

output:

```
In [5]: # PROBLEM 3
#There are 86 rooms in a school. 4356 students study there. Equal number of students sits in each room.
# Find the number of students sitting in one room .

#assigning variables for the given data

total_number_of_rooms = 86
number_of_students = 4356

#calculating the total number of students sitting in one room

number_of_students_sitting_in_one_room = number_of_students // total_number_of_rooms

#output

print ("number of students sitting in one room " , number_of_students_sitting_in_one_room )

number of students sitting in one room 50
```

4] Maria bought 96 toys priced equally for \$12960. The amount of \$1015 is still left with her. Find the cost of each toy and the amount she had.

output :

```
In [7]: # PROBLEM 4
# Maria bought 96 toys priced equally for $12960. The amount of $1015 is still left with her.
# Find the cost of each toy and the amount she had.

#assigning variables for the given data

number_of_toys_brought_by_Maria = 96
Total_cost = 12960
amount_left = 1015

#calculating cost of each toy

cost_of_each_toy = Total_cost // number_of_toys_brought_by_Maria

print("cost of each toy" , cost_of_each_toy )

amount_she_had = (Total_cost + amount_left )

print("amount Maria had" , amount_she_had )

cost of each toy 135
amount Maria had 13975
```

5] A travel company wants to fly a plane to Mauritius. Flying the plane costs 5000 dollars. So far, 29 people have signed up for the trip. If the company charges 200 dollars per ticket, what is the profit made by the company? Create variables for each numeric quantity and use appropriate arithmetic operations.

output:

```
In [6]: # PROBLEM 5
# A travel company wants to fly a plane to Mauritius.
# Flying the plane costs 5000 dollars. So far, 29 people have signed up for the trip.
# If the company charges 200 dollars per ticket, what is the profit made by the company?
# Create variables for each numeric quantity and use appropriate arithmetic operations.

total_cost_to_fly = 5000
cost_per_ticket = 200
tickets_sold = 29

#output

total_fare_recived = tickets_sold * cost_per_ticket
profit = total_fare_recived - total_cost_to_fly

print("profit made by the company = $ " , profit )

profit made by the company = $ 800
```

Conclusion :

This was our first practical with python programming language. The IDE that I used was a Jupyter notebook and Python 3.10 interpreter . I learned about variable declaration in python. Apart from that I used one of the Print functions to display the output on the screen. I used many arithmetic operators to get the desired results. Python language is very user friendly compared to other languages.