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AIM: To write simple Python programs to perform basic arithmetic operations, unit conversions, and other mathematical calculations.

HARDWARE & SOFTWARE REQUIREMENTS: Hardware:16GB RAM, Intel Processor(i9), Software: Python (Version 3.x), Google Colab (Cloud-based)

SYSTEM CONFIGURATION: Operating System: Windows 11, IDE: Google Colab

THEORY: Each program follows basic Python syntax, using functions like input(), print(), and arithmetic operators (+, -, *, /).Conversion formulas are applied where necessary.

REFERENCES: Geeks for Geeks, Python Documentation: https://docs.python.org/3/

1. Add two numbers

```
a=10
b=5
print("Sum:",a+b)
```

```
Sum is: 15
```

2. Subtract two numbers

```
a=10
b=5
print("Difference:",a-b)
```

```
Difference: 5
```

3. Multiply two numbers

```
a=10
b=5
print("Product:",a*b)
```

```
Product: 50
```

4. Divide two numbers.

```
a=10
b=5
print("Division:",a/b)
```

```
Division: 2.0
```

5. Add, multiply, subtract and divide two numbers.

```
a=100
b=4
print("Sum:",a+b)
print("Difference:",a-b)
print("Product:",a*b)
print("Division:",a/b)
```

```
Sum: 104
Difference: 96
Product: 400
Division: 25.0
```

6. Convert hours into minutes.

```
hrs=3
print("Minutes:",hrs*60)
```

```
Minutes: 180
```

7. Convert minutes into hours.

```
Minutes=240
print("Hours:",Minutes/60)
```

```
Hours: 4.0
```

8. Convert dollars into Rs. Where 1 $ = 48 Rs.

```
dollars=20
print("Rupees:",dollars*87)
```

```
Rupees: 1740
```

9. Convert Rs. into dollars where 1 $ = 48 Rs.

```
Rupees=870
print("Dollars:",Rupees/87)
```

```
Dollars: 10.0
```

10. Convert dollars into pound where 1 $ = 48 Rs. And 1 pound = 70 Rs.

```
dollars=40
print("pound:",dollars*0.77)
```

```
pound: 30.8
```

11. Convert grams into kg.

```
weight=7000
print("kilograms:",weight/1000)
```

```
kilograms: 7.0
```

12. Convert kgs into grams.

```
weight=6.5
print("grams:",weight*1000)
```

```
grams: 6500.0
```

13. Convert bytes into KB, MB and GB.

```
bytes=2048067
KB=bytes/1024
MB=KB/1024
GB=MB/1024
print("KB=",KB)
print("MB=",MB)
print("GB=",GB)
```

```
KB= 2000.0654296875
MB= 1.9531888961791992
GB= 0.0019074110314249992
```

14. Convert celcius into Fahrenheit. F = (9/5 * C) + 32

```
C=38
F=(9/5*C)+32
print("Fahrenheit:",F)
```

```
Fahrenheit: 100.4
```

15. Convert Fahrenheit into celcius. C = 5/9 * (F – 32)

```
F=100
C=5/9*(F-32)
print("Celsius:",C)
```

```
Celsius: 37.77777777777778
```

16. Calculate interest where I = PRN/100.

```
P=100
R=2
N=6
print("Interest:",(P*R*N)/100)
```

```
Interest: 12.0
```

17. Calculate area & perimeter of a square. A = L^2, P = 4L

```
L=5
print("Area:",L**2)
print("Perimeter:",4*L)
```

```
Area: 25
Perimeter: 20
```

18. Calculate area & perimeter of a rectangle. A = L*B, P = 2 (L+B)

```
L=5
B=4
print("Area:",L*B)
print("Perimeter:",2*(L+B))
```

```
Area: 20
Perimeter: 18
```

19. Calculate area of a circle. A = 22/7 * R * R

```
R=7
print("Area:",22/7*R*R)
```

```
Area: 154.0
```

20. Calculate area of a triangle. A = H*L/2

```
H=6
L=6
print("Area:",H*L/2)
```

```
Area: 18.0
```

21. Calculate net salary
    where net salary = gross salary + allowance – deduction. Allowances are 10% while deductions are 3% of gross salary.

```
gross_salary=10000
allowance=0.1*gross_salary
deductions=0.03*gross_salary
print("net salary",gross_salary+allowance-deductions)
```

```
net salary 10700.0
```

22. Calculate net sales where net sales = gross sales – 10% discount of gross sales.

```
gross_sales=20000
print("net sales:",gross_sales+0.1*gross_sales)
```

```
net sales: 22000.0
```

23. Calculate average of three subjects along with their total.

```
s1=70
s2=80
s3=90
print("Total:",s1+s2+s3)
print("Average:",(s1+s2+s3)/3)
```

```
Total: 240
Average: 80.0
```

24. Swap two values.

```
a=45
b=50
a,b=b,a
print("After swap")
```