In [9]:
```
# Switch values of two integers
# Input: n1 = 20, n2 = 30
# Output: n1 = 30, n2 = 20
n1 = 20
n2 = 30
n1=n1+n2  # eq n1=20,n2=30 tho dono add hoke n1 me store ho jayega or n1 ki valu
n2=n1-n2  # eq n1=50,n2=30 tho n1 se n2 minus(50-30 = 20) krenge tho n2 ki value
n1=n1-n2  # eq n1=50,n2=20 tho n1 se n2 minus(50-20= 30) krenge tho n1 ki value
print(n1)
print(n2)
```

```
30
20
```

In [20]:
```
n1 = 20
n2 = 30
n1=n1^n2
n2=n1^n2
n1=n2^n1

print(n1)
print(n2)
```

```
30
20
```

In [12]:
```
# Switch values of two strings (characters)
# Input: char1 = "hello", char2 = "java"
# Output: char1 = "java", char2 = "hello"
# char1 = "hello"
# char2 = "java"
# char3= " "
# char3=char2
# char2=char1
# char1=char3
# print(char1)
# print(char2)
```

```
java
hello
```

In [34]:
```
char1 = "hello"
char2 = "java"
char1=char1+char2
char2=char1[:5]
char1=char1[5:]
print(char1)
print(char2)
```

```
java
hello
```

In [13]:
```
# 3. Switch one string value with one integer value
# Input: n1 = 200, char2 = "java"
# Output: n1 = "java", char2 = 200
# n1 = 200
# char2 = "java"
# temp=" "
# temp=n1
# n1=char2
```

```
# char2=temp
# print(n1)
# print(char2)
```

```
java
200
```

In [7]:
```
n1 = 200
char2 = "java"

n1=str(n1)+char2
char2=int(n1[:3])
n1=n1[3:]
print(n1)
print(char2)
```

```
java
200
```

In [8]:
```
# 5. Update balance after deposit
# Initial balance: current_balance = 10000
# Deposit amount: deposit_balance = 5000
# Output:
# ○ Before deposit: current_balance = 10000
# ○ After deposit: current_balance = 15000
# 8. Apply a 20% discount to a price
# Before: price = 1000
# After: ?
```

```
Before deposite: current_balance = 10000
After deposite: current_balance = 15000
```

In [11]:
```
# 6. Update balance after withdrawal
# Before: balance = 12000
# Withdrawal: 3000
# After: ?
# balance = 12000
# Withdrawal= 3000
# res=balance-Withdrawal
# print("After Withdrawal",res)
```

```
After Withdrawal 9000
```

In [13]:
```
# 7. Increase shopping cart items by 3
# Before: cart_items = 5
# After: ?
# cart_items = 5
# inc_idet=3
# res=cart_items+inc_idet
# print("After inc:",res)
```

```
After inc: 8
```

In [71]:
```
# 8. Apply a 20% discount to a price
# Before: price = 1000
# After: ?
price = 1000
res=price
rev=(price*20/100)
print("After Apply 20% discvount:",price-rev)
```

```
After Apply 20% discvount: 800.0
```

In [30]:
```
# 9. Calculate student percentage
# Input: obtain_marks = 430, out_of = 500
# Output: Percentage = ?
# obtain_marks = 430
# out_of = 500
# res=obtain_marks/out_of*100
# print("Output: Percentage",int(res),"%")
```

```
Output: Percentage 86 %
```

In [37]:
```
# 10.Calculate total and average of 4 subjects
# Input Example:
# ● Subject 1: 80
# ● Subject 2: 75
# ● Subject 3: 90
# ● Subject 4: 85
# Subject_1= 80
# Subject_2= 75
# Subject_3= 90
# Subject_4= 85
# total_marks =Subject_1+Subject_2+Subject_3+Subject_4
# Avg_marks=total_marks/4
# print("Total Marks =",total_marks)
# print("Average Marks =",Avg_marks)
```

```
Total Marks = 330
Average Marks = 82.5
```

In [43]:
```
# 11. Calculate average of 3 numbers
# Input: num1 = 25, num2 = 35, num3 = 45
# Output: Average = ?
num1 = 25
num2 = 35
num3 = 45
Avg=(num1+num2+num3)/3
print("Average :",int(Avg))
```

```
Average : 35
```

In [49]:
```
# 12.Calculate profit or loss percentage
# Input: cost_price = 500, selling_price = 600
# Output: Profit or Loss = ?
cost_price = 500
selling_price = 600
profit=selling_price-cost_price
pro=profit/cost_price*100
print("Prfit :",profit)
print("Profit Persent:",int(pro))
```

```
Prfit : 100
Profit Persent: 20
```

In [1]:
```
# 13. Calculate simple interest
# Input: principal = 10000, rate = 5, time = 2
# Output: Simple Interest = ?
principal = 10000
rate = 5
time = 2
Simple_Interest=(principal*rate*time)/100
print("Simple interst =",int(Simple_Interest))
```

```
Simple interst = 1000
```

In [8]:
```
# 14.Calculate compound interest
# Input: principal = 10000, rate = 5, time = 2
# Output: Compound Interest = ?
principal = 10000
rate = 5
time = 2
a=1

Amount=principal*(a+rate/100)**time
print=(Amount)
```

In [1]:
```
# 15.Calculate tax on income
# Input: income = 500000, tax_rate = 10
# Output: Tax = ?
income = 500000
tax_rate = 10
Tax=income*tax_rate/100
print(Tax)
```

```
50000.0
```

In [5]:
```
# 16.Calculate percentage increase or decrease
# Input: initial_value = 200, final_value = 250
# Output: Percentage Change =
#Percentage Change= Old ValueNew Value−Old Value ×100
initial_value = 200
final_value = 250
Percentage_Change = ((final_value - initial_value)/initial_value)*100
print(Percentage_Change)
```

```
25.0
```

In [33]:
```
# 17. Convert boolean to integer
# Input: True
# Output: ?
Input= False
op=int(Input)
print(op)

z=op
y=bool(z)
print(y)
```

```
0
False
```

In [23]:
```
# 18.Convert float to string
# Input: 45.67
# Output: ?
Input=45.67
Output=str(Input)
print(type(Output))
```

```
<class 'str'>
```

In [30]:
```
# 19.Convert 20°C to Fahrenheit
# Input: 20°C
# Output: ? Fahrenheit (°F)=(Celsius (°C)×
# 5
```

```
# 9
#  )+32
Input=20
Fahrenheit = (Input*9/5)+32
print(Fahrenheit)
```

```
68.0
```

In [58]:
```
# 20. Convert 50°F to Celsius
# Input: 50°F
# Output: ?
Input=50
celsius = (Input-32)*5/9
print(f"celsius° : {int(celsius)}")
```

```
celsius° : 10 ndi
```

In [39]:
```
# 21.Convert integer to binary
# Input: 25
# Output: ?
Input=25
binary=bin(Input)
print(binary)
```

```
0b11001
```

In [42]:
```
# 21. Calculate area of a triangle
# Input: base = 10, height = 6
# Output: Area = ?
Base=10
Height=6
Area=1/2*Base*Height
print(Area)
```

```
30.0
```

In [43]:
```
# 22.Calculate perimeter of a square
# Input: side = 9
# Output: Perimeter = ?
side = 9
Perimeter=4*side
print(Perimeter)
```

```
36
```

In [44]:
```
# 23.Calculate diameter of a circle
# Input: radius = 14
# Output: Diameter = ?
radius = 14
Diameter=2*radius
print(Diameter)
```

```
28
```

In [45]:
```
# 24.Calculate volume of a cube
# Input: side = 5
# Output: Volume = ?
side=5
volume=side**3
print(volume)
```

```
125
```

In [46]:
```
# 25.Calculate surface area of a cuboid
# Input: l = 4, b = 3, h = 2
# Output: Surface Area = ?
l = 4
b = 3
h = 2
Surface_Area =2*(l*b+l*h+b*h)
print(Surface_Area)
```

52

In [47]:
```
# 26.Square of sum: (x + y)2
# Input: x = 5, y = 7
# Output: ?
x = 5
y = 7
Square_of_sum = (x+y)**2
print(Square_of_sum)
```

144

In [48]:
```
# 27.Simplify expression: x2 - 4x + 4
# Input: x = 3
# Output: ?
x = 3
simplify=(x*2 - 4*x + 4)
print(simplify)
```

-2

In [49]:
```
# 25.Evaluate: (a + b)(a - b)
# Input: a = 6, b = 2
# Output: ?
a = 6
b = 2
E=(a+b)*(a-b)
print(E)
```

32

In [50]:
```
# 29.Sum of cubes: a3 + b3
# Input: a = 1, b = 2
# Output: ?
a = 1
b = 2
Sum=a**3 + b**3
print(Sum)
```

9

In [51]:
```
# 30.Simplify: (x - y)2
# Input: x = 10, y = 6
# Output: ?
x = 10
y = 6
S=(x-y)**2
print(S)
```

16

In [52]:
```
# 31.Difference of cubes: x3 - y3
# Input: x = 4, y = 1
```

```
# Output: ?
x = 4
y = 1
S=x**3 - y**3
print(S)
```

```
63
```

In [65]:
```
# 32.If user input is:
# Name: Dev
# Age: 25
# City: Jaipur
# Hobby: Cooking
name=input(" ")
age= int(input(" "))
city =input(" ")
hobby=input(" ")
#print(city,hobby)

print(f"Meet {name},a {age}-year-old enthusiast from {city}.")
print(f"When not busy with daily tasks, {name} loves spending time {hobby}.")
print(f"Life in {city} keeps {name} energetic and curious every single day.")
print(f"With coding as a passion, the future looks creative and inspiring for {n
```

```
Meet dev,a 25-year-old enthusiast from jaipur.
When not busy with daily tasks, dev loves spending time cooking.
Life in jaipur keeps dev energetic and curious every single day.
With coding as a passion, the future looks creative and inspiring for dev in the
jaipur City:
```

In [70]:
```
# 33.Create a Python program that asks the user for the following:
# • Full Name
# • Profession
# • Favorite Quote
# • Years of Experience
# Name : <Full Name>
# Profession : <Profession>
# Experience : <Years of Experience> years
# Quote : "<Favorite Quote>"
name=input("Full name : ")
profession= (input("Your Profession:"))
quote =input("Your Favorite Quote: ")
Exp=int(input("Years of Experience: "))

print(f"Name : {name}")
print(f"Profession:{profession}")
print(f"Experience:{Exp}")
print(f"Quote:{quote}")
```

```
Name : Aarav
Profession:Student
Experience:10
Quote:I love bj
```

In [79]:
```
# 34.Ask the user:
# • Movie Name
# • Viewer Name
# • Seat Number
```

```
# ● Show Time
# Output format:
# 🎬 Movie Ticket
# ------------------------
# Movie : <Movie Name>

# Name : <Viewer Name>
# Seat No : <Seat Number>
# Time : <Show Time>
# Enjoy the show!
# ------------------------
Movie_Name = input("Enter Movie Name :")
Viewer_Name = input("Enter Viewer Name :")
Seat_Number= input("Seat Number")
Show_Time=input("Show time")

print(f"🎬 Movie Ticket ")
print("-------------------------------")
print(f"Movie : {Movie_Name}")
print(f"Name:{Viewer_Name}")
print(f"Seat No:{Seat_Number}")
print(f"Time:{Show_Time}")
print("Enjoy the show!")
print("---------------------------------")
```

```
🎬 Movie Ticket
-------------------------------
Movie : sjdbhdsjk
Name:fdf
Seat No:74ij
Time:7:30Am
---------------------------------
```

In [ ]: