



Python Programming - 2301CS404

Lab - 1

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01) WAP to print "Hello World"

```
In [5]: print("Hello world")
```

Hello world

02) WAP to print addition of two numbers with and without using input().

```
In [2]: a=10
b=20
print(a+b)
a=int(input("enter number"))
b=int(input("enter number"))
c =a+b
print(c)
```

30
enter number 1
enter number 2
3

03) WAP to check the type of the variable.

```
In [7]: a = 23
b = "jeet"
c = 9.24

print("The value of the a is:", a)
print("The type of the a is:", type(a))

print("The value of the b is:", b)
print("The type of the b is:", type(b))
```

```
print("The value of the c is:", c)
print("The type of the c is:", type(c))
```

The value of the a is: 23
The type of the a is: <class 'int'>
The value of the b is: jeet
The type of the b is: <class 'str'>
The value of the c is: 9.24
The type of the c is: <class 'float'>

04) WAP to calculate simple interest.

```
In [17]: principal = float(input("Enter the principal amount: "))
rate = float(input("Enter the annual interest rate (in %): "))
time = float(input("Enter the time period (in years): "))

simple_interest = (principal * rate * time) / 100

print(f"The simple interest is: {simple_interest}")
```

Enter the principal amount: 1000
Enter the annual interest rate (in %): 5
Enter the time period (in years): 2
The simple interest is: 100.0

05) WAP to calculate area and perimeter of a circle.

```
In [11]: import math

radius = float(input("Enter the radius of the circle: "))

area = math.pi * radius**2
perimeter = 2 * math.pi * radius

print(f"The area of the circle is: {area:.2f}")
print(f"The perimeter of the circle is: {perimeter:.2f}")
```

Enter the radius of the circle: 5
The area of the circle is: 78.54
The perimeter of the circle is: 31.42

06) WAP to calculate area of a triangle.

```
In [21]: base = float(input("Enter the base of the triangle: "))
height = float(input("Enter the height of the triangle: "))

area = 0.5 * base * height

print(f"The area of the triangle is: {area:.2f}")
```

Enter the base of the triangle: 5
Enter the height of the triangle: 10
The area of the triangle is: 25.00

07) WAP to compute quotient and remainder.

```
In [23]: dividend = int(input("Enter the dividend: "))
divisor = int(input("Enter the divisor: "))

quotient = dividend // divisor
remainder = dividend % divisor

print(f"The quotient is: {quotient}")
print(f"The remainder is: {remainder}")
```

Enter the dividend: 10
Enter the divisor: 3
The quotient is: 3
The remainder is: 1

08) WAP to convert degree into Fahrenheit and vice versa.

```
In [13]: # Input temperature
temperature = float(input("Enter the temperature: "))
unit = input("Is this in Celsius (C) or Fahrenheit (F)? Enter 'C' or 'F': ").strip()

# Perform conversion
if unit == 'C':

    fahrenheit = (temperature * 9/5) + 32
    print(f"{temperature:.2f}°C is equal to {fahrenheit:.2f}°F")
elif unit == 'F':

    celsius = (temperature - 32) * 5/9
    print(f"{temperature:.2f}°F is equal to {celsius:.2f}°C")
else:
    print("Invalid input. Please enter 'C' for Celsius or 'F' for Fahrenheit.")
```

Enter the temperature: 45
Is this in Celsius (C) or Fahrenheit (F)? Enter 'C' or 'F': c
45.00°C is equal to 113.00°F

09) WAP to find the distance between two points in 2-D space.

```
In [41]: import math
x1 = float(input("Enter x1 coordinate of the first point: "))
y1 = float(input("Enter y1 coordinate of the first point: "))
x2 = float(input("Enter x2 coordinate of the second point: "))
y2 = float(input("Enter y2 coordinate of the second point: "))
distance = math.sqrt((x2 - x1)**2 + (y2 - y1)**2)

# Display the result
print(f"The distance between the points ({x1}, {y1}) and ({x2}, {y2}) is: {distance:.2f}")
```

Enter x1 coordinate of the first point: 5
Enter y1 coordinate of the first point: 10
Enter x2 coordinate of the second point: 12
Enter y2 coordinate of the second point: 23
The distance between the points (5.0, 10.0) and (12.0, 23.0) is: 6.32

10) WAP to print sum of n natural numbers.

```
In [25]: n = int(input("Enter a positive integer: "))

if n > 0:
    total = n * (n + 1) // 2
    print(f"The sum of the first {n} natural numbers is: {total}")
else:
    print("Please enter a positive integer.")
```

Enter a positive integer: 5

The sum of the first 5 natural numbers is: 15

11) WAP to print sum of square of n natural numbers.

```
In [27]: n = int(input("Enter a positive integer: "))

if n > 0:
    sum_of_squares = sum(i**2 for i in range(1, n+1))
    print(f"The sum of the squares of the first {n} natural numbers is: {sum_of_}
else:
    print("Please enter a positive integer.")
```

Enter a positive integer: 5

The sum of the squares of the first 5 natural numbers is: 55

12) WAP to concatenate the first and last name of the student.

```
In [15]: first_name = input("Enter the first name: ")
last_name = input("Enter the last name: ")

full_name = first_name + " " + last_name

print("The full name of the student is:", full_name)
```

Enter the first name: Jeet

Enter the last name: Bhalodi

The full name of the student is: Jeet Bhalodi

13) WAP to swap two numbers.

```
In [29]: num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

num1, num2 = num2, num1

print("After swapping:")
print(f"First number: {num1}")
print(f"Second number: {num2}")
```

Enter the first number: 5

Enter the second number: 10

After swapping:

First number: 10.0

Second number: 5.0

14) WAP to get the distance from user into kilometer, and convert it into meter, feet, inches and centimeter.

```
In [33]: kilometers = float(input("Enter the distance in kilometers: "))

meters = kilometers * 1000
feet = kilometers * 3280.84
inches = kilometers * 39370.1
centimeters = kilometers * 100000

print(f"The distance in meters: {meters} m")
print(f"The distance in feet: {feet} ft")
print(f"The distance in inches: {inches} in")
print(f"The distance in centimeters: {centimeters} cm")
```

```
Enter the distance in kilometers: 56
The distance in meters: 56000.0 m
The distance in feet: 183727.04 ft
The distance in inches: 2204725.6 in
The distance in centimeters: 5600000.0 cm
```

15) WAP to get day, month and year from the user and print the date in the given format: 23-11-2024.

```
In [17]: day = input("Enter the day (DD): ")
month = input("Enter the month (MM): ")
year = input("Enter the year (YYYY): ")

print(f"The date is: {day}-{month}-{year}")
```

```
Enter the day (DD): 24
Enter the month (MM): 2
Enter the year (YYYY): 2006
The date is: 24-2-2006
```

```
In [ ]:
```