**WEEK 1:**

**1. Write a program to demonstrate different number data types in Python.**  
  
# Different number data types

# Integer

a = 20

print(type(a))

# Float

b = 21.23

print(type(b))

# Boolean

c = True

d = False

print(type(c))

print(type(d))

# String

e = "Hello World"

print(type(e))

# Complex

f = 3 + 4j

print(type(f))

# List

list1 = ["apple","banana", "watermelon"]

print(type(list1))

# Tuple

tup = ("apple","banana", "watermelon")

print(type(tup))

# Dictionary

dict1 = {"name":"SK", "age":19}

print(type(dict1))

**OUTPUT:**

<class 'int'>

<class 'float'>

<class 'bool'>

<class 'bool'>

<class 'str'>

<class 'complex'>

<class 'list'>

<class 'tuple'>

<class 'dict'>

**2. Write a python program to Read input data from the Keyboard and perform different Arithmetic Operations on the numbers.**

# To Perform different operations on the numbers taken as input from the user

num1 = float(input("Enter a number:\n"))

num2 = float(input("Enter another number:\n"))

# Addition

addition = num1 + num2

print(f"The sum of the two numbers is {addition}")

# Subtraction

subtraction = num1 - num2

print(f"The difference between the two numbers is {subtraction}")

# Multiplication

multiply = num1 \* num2

print(f"The product of the two numbers is {multiply}")

# Division

divide = num1 / num2

print(f"The division of the two numbers leads to the answer {divide} ")

# Floor division

f\_divide = num1 // num2

print(f"The floor division of the two numbers leads to the answer {f\_divide}")

# Exponential to the power of 2

expo = float(input("Enter one number which must be used as the power of prev. two numbers: \n"))

expo1 = num1 \*\* expo

expo2 = num2 \*\* expo

print(f"The result of first entered number is {expo1} and that of the second number is {expo2}")

# Modulo operator

rem = float(input("Enter a number to get the remainder of prev. two numbers when divided with this number: \n"))

modulo1 = num1 % rem

modulo2 = num2 % rem

print(f"The remainder of the first number when divided with {rem} is {modulo1} and that of the second number is {modulo2}")

**OUPUT:**

Enter a number:

5

Enter another number:

10

The sum of the two numbers is 15.0

The difference between the two numbers is -5.0

The product of the two numbers is 50.0

The division of the two numbers leads to the answer 0.5

The floor division of the two numbers leads to the answer 0.0

Enter one number which must be used as the power of prev. two numbers:

2

The result of first entered number is 25.0 and that of the second number is 100.0

Enter a number to get the remainder of prev. two numbers when divided with this number:

3

The remainder of the first number when divided with 3.0 is 2.0 and that of the second number is 1.0

**3. Write a python program to declare variables and display types of respective variables.**

# To declare variables and display types of those variables

var1 = 10

print(f"The type of variable var 1 is {type(var1)} ")

var2 = 10.3568

print(f"The type of variable var 2 is {type(var2)} ")

var3 = "Namaste"

print(f"The type of variable var 3 is {type(var3)} ")

var4 = True

print(f"The type of variable var 4 is {type(var4)} ")

var5 = 2 + 5j

print(f"The type of variable var 5 is {type(var5)} ")

var6 = ["hello","world"]

print(f"The type of variable var 6 is {type(var6)} ")

var7 = ("hello", "world")

print(f"The type of variable var 7 is {type(var7)} ")

var8 = {"name":"raju", "age":50}

print(f"The type of variable var 8 is {type(var8)} ")

**SAMPLE OUTPUT:**

The type of variable var 1 is <class 'int'>

The type of variable var 2 is <class 'float'>

The type of variable var 3 is <class 'str'>

The type of variable var 4 is <class 'bool'>

The type of variable var 5 is <class 'complex'>

The type of variable var 6 is <class 'list'>

The type of variable var 7 is <class 'tuple'>

The type of variable var 8 is <class 'dict'>

**4. Write a python program to convert integer type to float and vice versa.**

# Converting float to integer and vice versa

float1 = float(input("Enter a floating type of number:\n"))

int1 = int(input("Enter an integer type of number:\n"))

conv\_float = float(int1)

conv\_int = int(float1)

print(f"The floating number when converted to integer becomes {conv\_int}")

print(f"The integer number when converted to float becomes {conv\_float}")

**OUTPUT:**

Enter a floating type of number:

32.1

Enter an integer type of number:

45

The floating number when converted to integer becomes 32

The integer number when converted to float becomes 45.0

**5. Write a python program to print the current date in the following format “Sun May 29 02:26:23 IST 2017”.**

# Printing the date

from datetime import datetime

import pytz

utc = datetime.now(pytz.utc)

ist = utc.astimezone(pytz.timezone('Asia/Kolkata'))

formatted\_date = ist.strftime('%a %b %d %H:%M:%S IST %Y')

print(formatted\_date)

**OUTPUT:**

Thu Sep 05 17:11:22 IST 2024

**6. Write a program to read the following Employee data from the keyboard and print that data. Employee Details:   
a. Enter Employee No [Data type: int]  
b. Enter Employee Name [Data type: string]   
c. Enter Employee Salary [Data type: int]   
d. Enter Employee Address [Data type: string]   
e. Employee Married ?[True|False]: [Data type: Boolean]**

# Employee Data

emp\_no = int(input("Enter Employee No: "))

emp\_name = input("Enter Employee Name: ")

emp\_sal = float(input("Enter Employee Salary: "))

emp\_add = input("Enter Employee Address: ")

emp\_mar = eval(input("Employee Married? [True/False]: "))

print(f"Employee No: {emp\_no}")

print(f"Employee Name: {emp\_name}")

print(f"Employee Salary: {emp\_sal}")

print(f"Employee Address: {emp\_add}")

print(f"Employee Married: {emp\_mar}")

**OUTPUT:**

Enter Employee No: 101

Enter Employee Name: MAYANK

Enter Employee Salary: 900000

Enter Employee Address: UDUPI

Employee Married? [True/False]: True

Employee No: 101

Employee Name: MAYANK

Employee Salary: 900000.0

Employee Address: UDUPI

Employee Married: True