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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}")
```

OUTPUT:

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
```