Python Fundamentals (Assignment1) - Answers

1. **Write a program that asks the user for their name and age, then prints a sentence like:**

   Hello Shradha, you are 21 years old!

```
name=input("Enter name : ")
age= int(input("Enter age : "))

print(f"Hello {name}, you are {age} years old!")
```

OUTPUT

Hello Shradha, you are 21 years old!

2. Take two numbers as input from the user and print their sum, difference, product, and quotient .

```
a=int(input("Enter 1st number : "))
b= int(input("Enter 2nd number : "))

sum=a+b
diff=a-b
product=a*b
div=a/b

print("SUM = ", sum)
print("DIFFERENCE = ", diff)
print("PRODUCT = ", product)
print("QUOTIENT = ", div)
```

OUTPUT

Enter 1st number : 10
Enter 2nd number : 5
SUM = 15
DIFFERENCE = 5
PRODUCT = 50
QUOTIENT = 2.0

3. Ask the user to enter two integers and one float. Convert them all to floats and print their average.

```
a= int(input("Enter 1st integer number : "))
b= int(input("Enter 2nd integer number : "))
c= float(input("Enter a floating number : "))

x=float(a)
y=float(b)

avg=(x+y+c)/3

print("AVERAGE = ", avg)
```

OUTPUT

Enter 1st integer number : 10
Enter 2nd integer number : 8
Enter a floating number : 2.5
AVERAGE = 6.833333333333333

4. The user enters a string containing a number (e.g., “45”). Convert it to:
• an integer
• a float
• a string again
Print all three values with their types.

```
a= input("Enter number : ")

x=int(a)
y=float(a)
z=str(a)

print(x,type(x))
print(y,type(y))
print(z,type(z))
```

OUTPUT

Enter number : 45
45 <class 'int'>
45.0 <class 'float'>
45 <class 'str'>

5. **Evaluate and print the result of the following expression:**

   x = 10 + 3 * 2 ** 2

   Based on what you learnt in the lecture explain why the output is what it is.

Because Python evaluates the expression using **operator precedence rules**:

- `**` (power) has the **highest priority**
- Then `*` (multiplication)
- Then `+` (addition)

So even though `10 + 3 * 2 ** 2` is written in one line, Python doesn't evaluate from left to right.
It follows the rules:

1. Power first → `2 ** 2`
2. Then multiply → `3 * 4`
3. Then add → `10 + 12`

That's why the result is **22**, not 52 or 26.

6. **Write a program to swap values of two numbers entered by the user.**

```
a= input("Enter number A : ")

b= input("Enter number B : ")



print("Value of A before swapping : ",a)

print("Value of B before swapping : ",b)



a,b=b,a
```

```
print("Value of A after swapping : ",a)

print("Value of B after swapping : ",b)
```

OUTPUT

Enter number A : 18

Enter number B : 26

Value of A before swapping : 18

Value of B before swapping : 26

Value of A after swapping : 26

Value of B after swapping : 18

7. Ask the user for a temperature in Celsius (string input). Convert it to float , then calculate and print temperature in Fahrenheit.

Conversion formula: FahrenheitTemp = (CelsiusTemp*(9/5)) + 32

```
celsiusTemp= input("Enter temperature in Celsius: ")

float_celsiusTemp= float(celsiusTemp)



FahrenheitTemp =(float_celsiusTemp*(9/5)) + 32




print("Temperature in Fahrenheit is ",FahrenheitTemp)
```