Assignment (T1_T2)
TASK - 1

1. Create three variables in a single line and assign values to them in such a manner that each one of
them belongs to a different data type.
E.g. :
a = 1,
b = 2.01,
c = 'string'

```
a,b,c = 1,2.01,'string'
print(type(a))
print(type(b))
print(type(c))
```

Output =

<class 'int'>
<class 'float'>
<class 'str'>

2. Create a variable of type complex and swap it with another variable of type integer.

```
x= 1 +2j
print(x.real)
```

Output = 1.0

3. Swap two numbers using a third variable and do the same task without using any third variable.

```
a = 7
b= 12
```

```
temp = a
a=b
b=temp
print("swap a = ",a)
print("swap b = ",b)
```

Output = swap a = 12
swap b = 7

4. Write a program that takes input from the user and prints it using both Python 2.x and Python 3.x
Version.

```
a = int(input("enter a "))
print(a)
```

Output = enter a 12
12

```
a = int(raw_input("enter a = "))
print(a)
```

Output = enter a 12
12

5. Write a program to complete the task given below:
Ask users to enter any 2 numbers in between 1-10 , add the two numbers and keep the sum in
another variable called z. Add 30 to z and store the output in variable result and print result as the
final output.

```
num1 = int(input("enter a:"))
num2 = int(input("enter b:"))
```

```
z = num1 + num2
if num1 and num2 in range (1,10):
 print(z)
else:
 print("not in range")

y=(z).__add__ (30)
print(y)
```

Output = enter a:4
enter b:5
9
39

6. Write a program to check the data type of the entered values.
HINT: Printed output should say - The data type of the input value is : int/float/string/etc

7. Create Variables using formats such as Upper CamelCase, Lower CamelCase, SnakeCase and
UPPERCASE.

```
from re import sub
def snake_case(s):
 return '_'.join(
   sub('([A-Z][a-z]+)', r' \1',
   sub('([A-Z]+)', r' \1',
   s.replace('-', ' '))).split()).lower()
print(snake_case('JavaScript'))

def camel_case(s):
 s = sub(r"(_|-)+", " ", s).title().replace(" ", "")
 return ''.join([s[0].lower(), s[1:]])
print(camel_case('JavaScript'))
```

```
def camel_case(s):
 s = sub(r"(_|-)+", " ", s).title().replace(" ", "")
 return ''.join([s[0].upper(), s[1:]])
print(camel_case('JavaScript'))
```

Output = java_script
javascript
Javascript

8. If one data type value is assigned to ‘a’ variable and then a different data type value is assigned to ‘a’
again. Will it change the value? If Yes then Why?

TASK - 2

1. Write a program in Python to perform the following operation:
   - If a number is divisible by 3 it should print “Consultadd” as a string
   - If a number is divisible by 5 it should print “Python Training” as a string
   - If a number is divisible by both 3 and 5 it should print “Consultadd - Python Training” as a string.

```
n = int(input("enter the number "))
if n % 3 == 0 and n %5 == 0:
 print("consultadd-python Training")
 if n %5 == 0 :
   print("python Training")
```

```
if n %3 == 0:
  print("Consultadd")
```

Output =
enter the number 25
python Training

enter the number 30
consultadd-python Training
python Training
Consultadd

enter the number 3
Consultadd

2. Write a program in Python to perform the following operator based task:
   - Ask user to choose the following option first:
   - If User Enter 1 - Addition
   - If User Enter 2 - Subtraction
   - If User Enter 3 - Division
   - If User Enter 4 - Multiplication
   - If User Enter 5 - Average
   - Ask user to enter two numbers and keep those numbers in variables num1 and num2
   - respectively for the first 4 options mentioned above.
   - Ask the user to enter two more numbers as first and second for calculating the average as
   - soon as the user chooses an option 5.
   - At the end if the answer of any operation is Negative print a statement saying “NEGATIVE”

```
while True:

  a = int(input("enter a: "))
  b = int(input("enter b: "))
```

```
c = int(input("enter your choice: "))

result = 0
if c == 1:
    result = a + b
elif c==2:
    result = a - b
elif c ==3:
     result = a / b
elif c== 4:
    result = a * b
elif c==5:
    result =(a+b) / 2
print(result)
```

3. Write a program in Python to implement the given flowchart:

```
a = 10
b = 20
c = 30

avg = (a+b+c)/3
print("avg = ", avg)

if (avg > a) and (avg > b) and (avg > c):
  print("%d is higher than %d, %d, %d" %(avg, a, b, c))
elif (avg > a) and (avg > b):
  print("%d is higher than %d, %d, %d" %(avg, a, b, c))
elif (avg > a) and (avg > c):
  print("%d is higher than %d, %d" %(avg, a, c))
elif (avg > b) and (avg > c):
  print("%d is higher than %d, %d" %(avg, b, c))
elif (avg > a):
  print("%d is just higher than %d" %(avg, a))
```

```
elif (avg > b):
  print("%d is just higher than %d" %(avg, b))
elif (avg > c):
  print ("%d is just higher than %d" %(avg, c))
```

Output = avg = 20.0
20 is just higher than 10

4. Write a program in Python to break and continue if the following cases occurs:

- If user enters a negative number just break the loop and print "It's Over"
- If user enters a positive number just continue in the loop and print "Good Going"

```
while True:
  number = float(input('Enter the number : '))
  if number < 0:
     print("It's Over")
     break
  print("Good Going")
```

Output = Enter the number : 5
Good Going
Enter the number : -1
It's Over

5. Write a program in Python which will find all such numbers which are divisible by 7 but are not a
multiple of 5, between 2000 and 3200.

```
nl = []
for x in range(2000, 3200):
  if (x%7==0) and (x%5==0):
      nl.append(str(x))
print(','.join(nl))
```

Output =
2030,2065,2100,2135,2170,2205,2240,2275,2310,2345,2380,2415,2450,2485,2520,2555,2590,2625,2660,2695,2730,2765,2800,2835,2870,2905,2940,2975,3010,3045,3080,3115,3150,3185

6. What is the output of the following code examples?

```
x=123
for i in x:
print(i)
```

Ans - It will provide an error because we should use while loop instead of for loop.

```
i = 0
while i < 5:
print(i)
i += 1
if i == 3:
break
else:
print("error")
```

Ans = It will provide an error because we should use For loop instead of while loop.

count= 0
while True:
print(count)
count += 1
if count >= 5:
Break

Ans = It will throw an error as 'break' should be used instead of 'Break'

7. Write a program that prints all the numbers from 0 to 6 except 3 and 6.
Expected output: 0 1 2 4 5
Note: Use ‘continue’ statement

```
for x in range(6):
   if (x == 3 or x==6):
       continue
   print(x,end=' ')
print("\n")
```

Output =
0 1 2 4 5

8. Write a program that accepts a string as an input from the user and calculate the number of digits
and letters.
Sample input: consul72
Expected output: Letters 6 Digits 2

```
Input = input("Enter the string")

d=l=0

for c in Input:
    if c.isdigit():
        d = d + 1
    elif c.isalpha():
        l = l + 1
    else:
        pass
print("Letters", l)
print("Digits", d)
```

Output = Enter the string shivamni@123
Letters 8
Digits 3

9.

```
# Guess the lucky number

number = input("Guess the lucky number ")
while number != 5:
  print ("That is not the lucky number")
  number = input("Guess the lucky number ")

# Guess again each time

number = -1
again = "yes"
while number != 5 and again != "no":
    number = input("Guess the lucky number: ")
    if number != 5:
        print ("That is not the lucky number")
        again = input("Would you like to guess again? ")
```

10. Write a program that asks five times to guess the lucky number. Use a while loop and a counter,
such as
11. In the previous question, insert break after the “Good guess!” print statement. break will terminate
the while loop so that users do not have to continue guessing after they found the number. If the user
does not guess the number at all, print “Sorry but that was not very successful”.

```
counter = 1
while counter <= 5:
  number = input("Guess the " + str(counter) + ". number ")
  if number != 5:
      print ("Try again.")
  else:
      print ("Good guess!")
      break
  counter = counter +1
else:
  print ("Game over")
```