In [4]:

```
x = input("Enter string: ")
print(x)
print(type(x))
```

```
Enter string: apssdc
apssdc
<class 'str'>
```

In [5]:

```
x = input("Enter string: ")
print(x)
print(type(x))
```

```
Enter string: 12345
12345
<class 'str'>
```

In [6]:

```
z = int(input("Enter a value: "))
print(z)
print(type(z))
```

```
Enter a value: 2021
2021
<class 'int'>
```

In [7]:

```
f = float(input())
print(f)
```

```
123.789
123.789
```

In [8]:

```
print(type(f))
```

```
<class 'float'>
```

## Operators

1. Arithmetic Operators
2. Assignment Operators
3. Comparision Operators
4. Logical Operators
5. Identity Operators
6. Membership Operators
7. Bitwise Operators

In [9]:

```
# 1. Arithmetic operators

a = int(input("Enter 1st number:"))
b = int(input("Enter 2nd number:"))
print("Add:",a+b)
print("Sub:",a-b)
print("Mul:",a*b)
print("Div:",a/b)
print("Mod",a%b)
print("Floor division:",a//b)
print("Pow",a**b)
```

```
Enter 1st number:5
Enter 2nd number:3
Add: 8
Sub: 2
Mul: 15
Div: 1.6666666666666667
Mod 2
Floor division: 1
Pow 125
```

## 2. Assignment operator

- =, +=, -=, /=, =, %=, //=, *=

In [10]:

```
x = 5
x += 2 # x = x + 2
print(x)
```

```
7
```

In [11]:

```
a = 3
a -= 1
print(a)
```

```
2
```

## Comparision Operators

==, !=, <, <=, >, >=

In [13]:

```
n1,n2 = 5,3
print(n1 == n2)
```

```
False
```

In [14]:

```
print(n1 != n2)
```

```
True
```

In [15]:

```
print(n1 > n2)
```

```
True
```

In [16]:

```
print(n1 >= n2)
```

```
True
```

In [17]:

```
print(n1 < n2)
```

```
False
```

In [18]:

```
print(n1 <= n2)
```

```
False
```

## Logical Operators

- and, or, not

In [19]:

```
a = 5
print(a<6 and a>4)
```

```
True
```

In [20]:

```
print(a<4 and a>3)
```

```
False
```

In [21]:

```
print(a<4 or a>3)
```

```
True
```

In [22]:

```
res = a<4 or a>3
print(res)
```

```
True
```

In [23]:

```
print(not(res))
```

```
False
```

### 5. Identity Operators

- is, is not

In [24]:

```
x, y = 6,9
print(x is y)
```

```
False
```

In [25]:

```
print(x is not y)
```

```
True
```

### 6. Membership Operators

- in, not in

In [26]:

```
x = ['apple', 'grapes', 'banana', 'orange']
print('banana' in x)
```

```
True
```

In [27]:

```
print('papaya' in x)
```

```
False
```

In [28]:

```
print('papaya' not in x)
```

```
True
```

### 7. Bitwise Operators

&, |, ^, >>, <<, ~

In [29]:

```
1 5 & 3
```

Out[29]:

1

In [30]:

```
1 5 | 3
```

Out[30]:

7

In [31]:

```
1 5 ^ 3
```

Out[31]:

6

In [32]:

```
1 5 >> 1
```

Out[32]:

2

In [33]:

```
1 5 << 1
```

Out[33]:

10

### Conditional Statements

- if
- elif
- else
- nested if

In [34]:

```
m = int(input("Enter a value:"))
n = int(input("Enter another value:"))
if(m>n):
    print(m,"is greater than",n)
else:
    print(m,"is less than",n)
```

```
Enter a value:12
Enter another value:10
12 is greater than 10
```

In [35]:

```
# Write a python program to print biggest number among three numbers
a = int(input("A="))
b = int(input("B="))
c = int(input("C="))
if(a>b and a>c):
    print(a,"is the biggest number")
elif(b>a and b>c):
    print(b,"is the biggest number")
else:
    print(c,"is the biggest number")
```

```
A=13
B=10
C=-30
13 is the biggest number
```

In [2]:

```
# Write a python program to print the given number is even or odd.
n = int(input())
if(n%2 == 0):
    print(n,"is even")
else:
    print(n,"is odd")
```

```
35
35 is odd
```

In [5]:

```
# nested if
# Checking whether the given number if positive or negative or equal to zero
num = int(input("Enter a number: "))
if(num >= 0):
    if(num == 0):
        print(num,"is equal to zero")
    else:
        print("positive number")
else:
    print(num,"is negative number")
```

```
Enter a number: -6
-6 is negative number
```

## Looping statements

-> For loop

```
* A for loop is used for iterating over a sequence(list,tuple,dictionary,sets, and
string).
```

- While loop

In [6]:

```
# for i in range(start,stop,increment|decrement)
for i in range(1,10):
    print(i)
```

```
1
2
3
4
5
6
7
8
9
```

In [7]:

```
for i in range(1,11):
    print(i,end=" ")
```

```
1 2 3 4 5 6 7 8 9 10
```

In [8]:

```
for i in range(1,11,2):
    print(i,end=" ")
```

```
1 3 5 7 9
```

In [10]:

```
# print even numbers in between range of 1 to 20 numbers
for i in range(2,21,2):
    print(i,end=" ")
```

```
2 4 6 8 10 12 14 16 18 20
```

In [11]:

```
x = ['apple', 'grapes', 'banana', 'orange']
print(len(x))
```

```
4
```

In [12]:

```
for i in range(len(x)):
    print(i)
```

```
0
1
2
3
```

In [15]:

```
for j in range(1,len(x)+1):
    print(j)
```

```
1
2
3
4
```

In [17]:

```
for n in range(1,21): # n=1, n=2, n=3
    if(n%2 == 0):
        print(n,end=" ")
```

```
2 4 6 8 10 12 14 16 18 20
```

In [18]:

```
# break statement
x = ['apple', 'grapes', 'banana', 'orange']
for item in x: #item = 'apple'
    print(item)
```

```
apple
grapes
banana
orange
```

In [19]:

```
for item in x: # item = 'apple', item = 'grapes'
    print(item)
    if(item == "grapes"):
        break
```

```
apple
grapes
```

In [23]:

```
1 x
```

Out[23]:

```
['apple', 'grapes', 'banana', 'orange']
```

In [21]:

```
1 for item in x:
2     if(item == 'grapes'):
3         continue
4     print(item)
```

```
apple
banana
orange
```

In [ ]:

```
1
```