Assignment Operator

```
a = 10
```

```
print(a)
```

```
    10
```

```
print(type(a))
```

```
 <class 'str'>
```

```
a = 3
a = a*3
print(a)
```

```
    9
```

```
print("3" + "4")
```

```
    34
```

Arithmatic Operators: +, -, / , // , %, **

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Comparison Operator

1. <
2. >
3. =<
4. >=
5. ==
6. !=

Comparison Operator:

Operators	Meaning	Example	Result
<	Less than	5<2	False
>	Greater than	5>2	True
<=	Less than or equal to	5<=2	False
>=	Greater than or equal to	5>=2	True
==	Equal to	5==2	False
!=	Not equal to	5!=2	True

```
a = 5
b = 10

print(a < b)
```

```
True
```

```
print(a > b)
```

```
False
```

```
print(a <= b)
```

```
True
```

```
print(10<=9)
```

```
False
```

```
x = 567
y = 28

print(x>=y)
```

```
True
```

```
print(a >= b)
```

```
False
```

```
print(a == b)
```

```
False
```

```
print(a != b)
```

```
True
```

```
x = 10
y = 10

print(x!=y)
```

```
False
```

```
print(x==y)
```

```
True
```

```
print(True==1)
```

```
True
```

```
print(True==2)
```

```
False
```

```
print(False==0)
```

```
True
```

```
print(True==0.5)
```

```
False
```

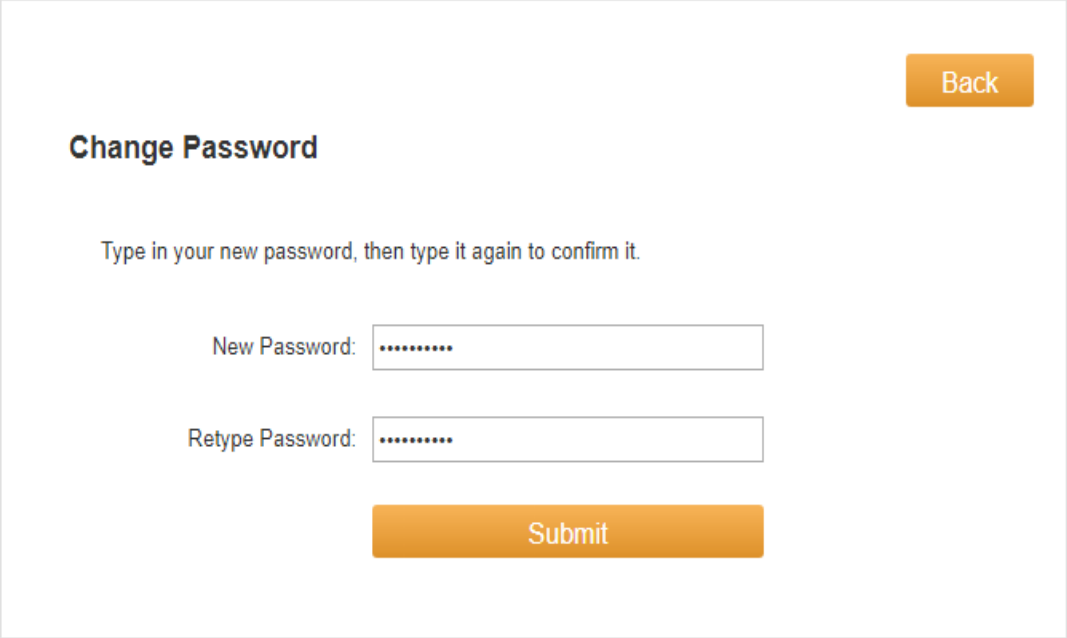
```
print(True==1.0)
```

```
True
```

```
print(1.0==1)
```

```
True
```

Problem#1: Password check:




```
password = input()
retype = input()
print(password==retype)
```

```
1234
1234
True
```

```
password = int(input())
retype = float(input())
print(password==retype)
```

```
1
1.0
True
```

```
print(type(password))
```

```
<class 'str'>
```

```
print("1"== "1.0")
```

```
False
```

```
float("1.0")
```

```
1.0
```

Assignment operators:

Operator	Example	Equivalent Expression (m=15)	Result
=	y = a+b	y = 10 + 20	30
+=	m +=10	m = m+10	25
-=	m -=10	m = m-10	5
*=	m *=10	m = m*10	150
/=	m /=10	m = m/10	1.5
%=	m %=10	m = m%10	5
**=	m**=2	m = m**2 or $m = m^2$	225
//=	m//=10	m = m//10	1

```
a = 10
```

```
b = "Sachin"
```

```
a = a+5
print(a)
```

```
15
```

```
a = 10
a += 5
print(a)
```

```
15
```

```
a = 10
a -= 5
print(a)
```

```
5
```

```
a = 10
a *= 5
print(a)
```

```
50
```

Outplace Operation

```
a = 50

a = a*10
print(a)
```

```
500
```

Inplace Operation

```
a = 50

a *= 10
print(a)
```

```
500
```

```
number = 12.0
print(int(number)==number)
```

```
True
```

```
1.0==1
```

```
True
```

```
print(1.2 == 1)
```

```
False
```

```
number = 12.2
print(int(number)==number)
```

```
False
```

```
int(number) == number
```

```
12
```

```
number
```

```
12.2
```

Problem #2:

Write a program to implement the re-valuation system. The Student wrote an exam and score X marks. He found that there is a mistake in the evaluation as he suppose to get more marks for a question and reported for re-evaluation

Input:

original marks : 96

more marks: 04

Output:

Final marks: 100

```
original_marks = int(input())
more_marks = int(input())
final_marks = original_marks + more_marks
print(final_marks)
```

```
25
5
30
```

```
original_marks = int(input())
more_marks = int(input())
original_marks +=  more_marks
print(original_marks)
```

```
10
5
15
```

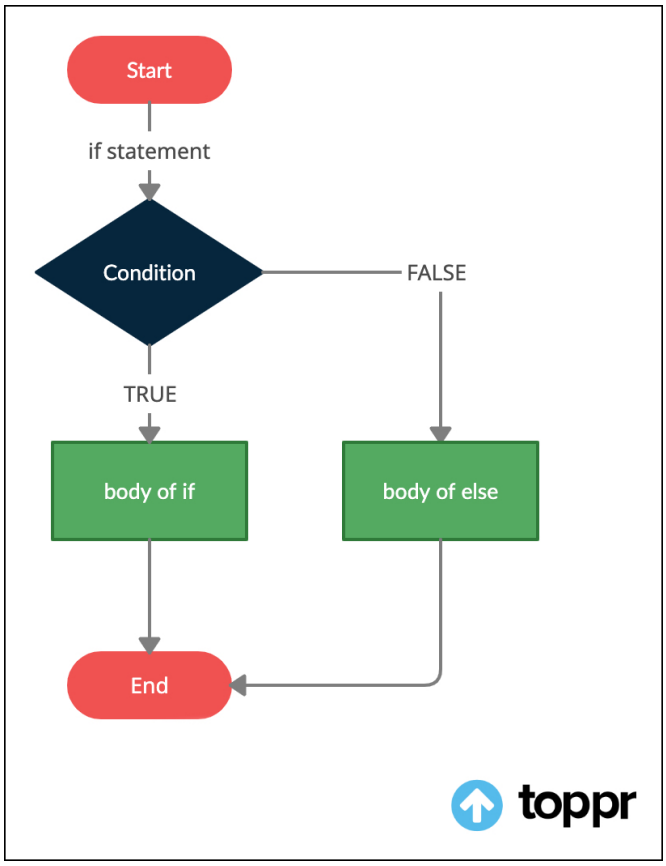
Control Statements

- if else

```
update_marks = 5
if update_marks>0:
  print("Marks Increased")
else:
  print("Marks Decreased")
```

```
Marks Increased
```

Control statements:




```
number = 10

if number==10:
  print("Number is 10") #1st line
else:
  print("Number is not 10") # 2nd line
```

```
    Number is 10
```

```
number = 9

if number>=10:
  print("Number is 10") #1st line
else:
  print("Number is less than 10") # 2nd line
```

```
    Number is less than 10
```

```
a=10
if a==10:
  print('a')
else:
  print('b')
```

```
a
```

```
a = 9

if a >10:
  print("a is greater than 10")
```

```
password = 'a1234'

if len(password)>=5:
  print("Length is okay") #1
  print("Valid Password") #2
else:
  print("Invalid Password") #3
```

```
Length is okay
Valid Password
```

```
password = '22222'

if len(password)>=5:
  print("Length is okay") #1
  if len(password)<8:
    print("Weak Password") #2
  else:
    print("Complex Password") # 3
else:
  print("Invalid Password") #4
```

```
Length is okay
Weak Password
```

```
password = '234.@.A'

if len(password)>=5:
  print("Length is okay") #1
  if len(password)<8:
    print("Weak Password") #2
  else:
    print("Complex Password") # 3
else:
  print("Invalid Password") #4
  if len(password)<2:
    print("Super Easy Password")

  else:
    print("decent pass")
```

```
Length is okay
Weak Password
```

Problem #5:

Write a program to Check the person has diabetes or not. Take blood sugar level as input and if it is more than 126 , mention the person has diabetic or else normal

```
sugar_level = int(input())
if sugar_level>=127:
  print("Diabetic") #1
else:
  print("Healthy") #2
```

```
126
Healthy
```

Logical Operator:

- and: All condition should be True
- or: One of the conditions should evaluate to True
- not

```
marks = 95


if marks>80 and marks  > 90 and marks >100:
  print("B grade") # 1
else:
  print("No Grade")  #2
```

```
    No Grade
```

```
a = 6

if a >5 or a <10 and a ==6:
  print("run or") #1

else:
  print("Invalid or") #2
```

```
    run or
```

Double-click (or enter) to edit

```
if not (5<2):
  print("Here")
```

```
    Here
```

```
if  not (5>2):
  print("line 1")
else:
  print("line 2")
```

```
    line 2
```

```
print(1 == True)
```

```
    True
```

```
print(1 == "1.0")
```

```
    True
```

```
print(1 == 1.0)
```

```
True
```

```
print(1 == 1.1)
```

```
False
```

```
marks = float(input())

if marks>34:
  print("Student passed")
  if marks > 50 and marks < 80:
    print("Grade B")
  else:
    if marks<50:
      print("Grade C")
    else:
      print("Grade A")


else:
  print("Student Failed")
  if marks<10:
    print("Failed horribly")
```

```
28
Student Failed
```

```
a =10
a = a - 2
print(a)
```

```
8
```

```
a =10
a -= 2
print(a)
```

```
8
```

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