1.What is indentation error? Why indentation is important? Give one simple example?

* Error occur when the spaces are not placed properly ,error comes between execution and shows stop program. * It improves the readabilty of code and mainly used for code inside conditional statements, looping statements.....etc

In [1]:
```
## Eg :- not showing identation error
x=45
y=90

if x < y:
    print ("x is lesser than y")
else:
    print("x is greater than y")
```

```
x is lesser than y
```

In [2]:
```
## Eg :-  showing identation error
x=45
y=90

if x < y:
print ("x is lesser than y")
else:
    print("x is greater than y")
```

```
  Input In [2]
    print ("x is lesser than y")
    ^
IndentationError: expected an indented block
```

In [ ]:
```

```

2.Correct the following code and write the comment where you made the correction?

class_started = bool(input("Hey friend, is class started?: [0-False/1-True]"))

if class_started:

```
      print("Since class started...")
      print("Lets concentrate")
```

else:

```
     print("Since class is not started...")

    print("let's revise")
```

HINT: Refer your data type conversion class

In [3]:
```
### no need to correct the code .it is correct.
class_started = bool(input("Hey friend, is class started?: [0-False/1-True]"))

if class_started:
```

```
   print("Since class started...")
   print("Lets concentrate")
else:
   print("Since class is not started...")
   print("let's revise")
```

```
Since class started...
Lets concentrate
```

In [ ]:

3.Use if else condition to verify that datatype of input() method in python is always string.

In [4]:
```
friend =input('Enter your name:')

if friend =='veena':
    print(f'she is a friend')
else:
        print('its possible that he/she is not a friend ')
```

```
she is a friend
```

In [5]:
```
friend =input('Enter your name:')

if friend =='veena':
    print(f'she is a friend')
else:
        print('Its possible that he/she is not a friend ')
```

```
Its possible that he/she is not a friend
```

In [ ]:

4. Take 3 variables and assign integer values to them. Find the largest variable, by only using the if and else conditions.

In [6]:
```
A = 34
B = 12
C = 76

if A < B < C:
    print("A and B are largest than C ")
else:
    print(" C is largest than A and B ")
```

```
 C is largest than A and B
```

In [ ]:

5. What would be the solution?

1. True
2. False

```python
a = 6
```

```
b = 10
print( not ( not a == 10 or not b == 10) )
```

In [7]:
```
a = 6
b = 10
print( not ( not a == 10 or not b == 10) )
```

```
False
```

In [8]:
```
a = 6
b = 10
print ( not a == 10 or not b == 10)
```

```
True
```

In [ ]:
```
```

6. Find the answer as well as find out the reason behind the result? -

- case 1:
  ```python
  A = 5.0
  B = 10/2
  print(A is B)
  ```
- case 2:
  ```python
  A = 5.0
  B = int(10/2)
  print(A is B)
  ```
- case 3:
  ```python
  A = 5.0
  B = float(10/2)
  print(A is B)
  ```

In [9]:
```
### same two float values have different id address locations because result  shoul

A = 5.0
B = 10/2

print(A is B)
```

```
False
```

In [10]:
```
### one value float and another value int . they have different id address.

A = 5.0
B =int (10/2)

print(A is B)
```

```
False
```

In [11]:
```
### Two same float values have different id address locations because result  shoul

A = 5.0
```

```
B =float (10/2)

print(A is B)
```

```
False
```

7. Write a program that asks the user to enter a number. You should print out a message to the user, either “That number is divisible by either 3 or 5”, or “That number is not divisible by either 3 or 5”. Be sure to consider the data type of the input you are taking in from the user. Use a single if/else block to solve this problem.

In [13]:
```
Number = int(input("enter a number :"))

if Number:
    print("number is divisible by either 3 or 5 : {Number % 3 or 5}")
else:
    print("number is not divisible by either 3 or 5 : {Number % 5 or 3}")
```

```
number is divisible by either 3 or 5 : {Number % 3 or 5}
```

In [ ]:

8. Take user input for length and width. Then calculate the area of rectangle. Also print as per length and width whether its a square of rectangle.

In [15]:
```
length = float(input())
width=float(input())
area_of_rectangle =length*width


print("area of rectangle is :%.2f" %area_of_rectangle)
```

```
area of rectangle is :276.00
```

In [16]:
```
length = int(input())
width = int(input())
area_of_rectangle =length*width


print(f"area of rectangle is :{area_of_rectangle}")
```

```
area of rectangle is :476
```

In [ ]:

9. Take two variable radius_1 and radius_2 and calculate the area of circle_1 and circle_2. Also print which circle has large area. If area is equal then print area is equal.

In [18]:
```
radius_1 =2
radius_2 =5.9

Area_of_circle_1 =22/7*(radius_1)**2
```

```
print(f" area of circle_1 :{Area_of_circle_1}")

Area_of_circle_2 =22/7*(radius_2)**2
print(f" area of circle_2 :{Area_of_circle_2}")


if Area_of_circle_1 < Area_of_circle_2:
    print("circle 1 has larger area than circle 2")
else:
    print("circle 2 has larger area than circle 1")
```

```
 area of circle_1 :12.571428571428571
 area of circle_2 :109.40285714285714
circle 1 has larger area than circle 2
```

In [ ]:

10. Check whether a year is leap year or not. Use nested if...else to solve this problem. A leap year is exactly divisible by 4 except for century years (years ending with 00). The century year is a leap year only if it is perfectly divisible by 400.

In [19]:
```
Year =  int(input("enter  a year" ))

if (Year % 4 == 0) :
    print (f"{Year} is a leap year ")
else:
    print(f"{Year} is not a leap year")
```

```
2020 is a leap year
```

In [20]:
```
Year =  int(input("enter  a year" ))

if (Year % 4 == 0) :
    print (f"{Year} is a leap year ")
else:
    print(f"{Year} is not a leap year")
```

```
2022 is not a leap year
```

In [ ]: