```
#What does the + operator do when used with two lists?
li=[1,23,45,3]
li2=[6,7,8,9]
print(li+li2)
```

```
[1, 23, 45, 3, 6, 7, 8, 9]
```

```
#find the length of tuple
tuple=(1,2,5,7,3)
len(tuple)
```

```
5
```

```
#What does the * operator do when used with a list?
li3=[454,6,2,9,29,7]
# li4=[59,9,6,65,7,86]
print(li3*3)
```

```
[454, 6, 2, 9, 29, 7, 454, 6, 2, 9, 29, 7, 454, 6, 2, 9, 29, 7]
```

```
#How do you add an element to the end of a list?
li.append(45)
```

```
print(li)
```

```
[1, 23, 45, 3, 45]
```

```
#What method can you use to remove an element from a list by its
value?
li.remove(3)
print(li)
```

```
[1, 23, 45, 45]
```

```
#How do you access the third element of a tuple?
tuple1=(1,2,5,78,9)
print(tuple1[2])
```

```
5
```

```
#What method can you use to sort a list in ascending order?
li4=[12,3,73,3,8,1,2,5]
li4.sort()
```

```
li4
```

```
[1, 2, 3, 3, 5, 8, 12, 73]
```

```
#How can you check if a specific item exists in a tuple?
tuple=(3,4,5,6,67,22,5)
print(4 in tuple)
```

```
True
```

```
#What method would you use to remove all occurrences of a specific
item from a list?
li4.clear()


li4
```

```
[]
```

```
#How can you concatenate two tuples?
tuple2=(2,34,63,6,3,1)
tuple3=(2,45,6,5,7,31,45,3)
print(tuple2 + tuple3)
```

```
(2, 34, 63, 6, 3, 1, 2, 45, 6, 5, 7, 31, 45, 3)
```

```
#What method can you use to get the index of a specific item in a
list?
list1=[2,4,2,4,2]
list1.index(4)
```

```
1
```

```
#How do you create a tuple with a single element?
tu=(1,)
print(tu)
```

```
(1,)
```

```
#How can you reverse the elements of a list?

list2=[2,3,5,6]
list2.reverse()
list2
```

```
[6, 5, 3, 2]
```

```
#What does the in operator do when used with a list or tuple?
list2=[2,3,5,6]
print(3 in list2)

tuple=(3,4,5,6,67,22,5)
print(4 in tuple)
```

```
True
True
```

```
#How do you find the number of occurrences of a specific element in a
list?
list2=[2,3,5,6,2,4,6,2]
list2.count(2)
```

```
3
```

```
#How can you slice a list to get the first three elements?
list2=[2,3,5,6,2,4,6,2]
list2[0:3:1]
```

```
[2, 3, 5]
```

```
#What is the difference between the append and extend methods for a
list?
# append is used to add a single element at the end of the list
# extend is used to add multiple items or a new list to the existing
list.

#How can you create a list of tuples where each tuple contains two
elements?

list5=[(1,3),(3,6),(6,7)]
list5
```

```
[(1, 3), (3, 6), (6, 7)]
```

```
#What method can you use to remove an element from a tuple (since
tuples are immutable)?
#You cannot change, add, or remove elements in a tuple, but you can
perform other operations that do not modify the original tuple

#How do you join a list of strings into a single string with spaces in
between?
li3=['hello','kk','ajay']
li4=['apple','banana','dog']
list=li3+li4
list
```

```
['hello', 'kk', 'ajay', 'apple', 'banana', 'dog']
```

```
#What is the syntax for an if statement in Python?
# if (condition):
#     code
# elif(condition):
#     code
# else:
#     code

#How do you write an if-else statement to check if a number is
positive or negative?
num=float(input("enter your number"))
if(num>0):
        print("positive")
else:
        print("negative")
```

```
enter your number 7.5
```

```
positive
```

```
#What is the purpose of the elif keyword?

#to pass multiple conditions in program

#How do you check if a variable x is between 10 and 20 (inclusive)?

x=int(input("enter number"))
if(x>=10 and x<=20):
      print("x between 10 and 20")
else:
      print("input is not valid")
```

```
enter number 15

x between 10 and 20
```

```
#What is the result of an if statement when the condition is False?

# then it will execute elif or else part

#How can you combine multiple conditions in a single if statement
using and?
maths=int(input("enter your marks"))
english=int(input("enter your marks"))
science=int(input("enter your marks"))
average=maths+english+science
percent=(average/300)*100
print(percent)
if(percent>80 and percent<=100):
    print("A grade")
elif(percent>60 and percent<=80):
    print("B garde")
elif(percent>50 and percent<=60):
    print("C grade")
elif(percent>45 and percent<=50):
    print("D grade")
elif(percent>25 and percent<=45):
    print("E grade")
elif(percent<25):
    print("F garde")
else:
    print("input is not valid")
```

```
enter your marks 45
enter your marks 45
enter your marks 60

50.0
D grade
```

```
#What will be the output of an if-else statement if the condition is
true?
# it will execute the if part and give the result

#What will be the output of an if-else statement if the condition is
true?

a=input('enter any character')
if(a=='a' or a=='e' or a=='i' or a=='o' or a=='u'):
    print("vowel")
else:
    print("consonant")
```

```
enter any character a
```

```
vowel
```

```
#What is the difference between == and is in conditional statements?
#== it means equal
# is indicates the location

#How can you check if a string s is empty?
a=""
bool(a)
#false means string is empty
```

```
False
```

```
#What is the result of the following condition: if not (x > 10)?

x=int(input("enter number"))
if not(x>10):
      print("x is less than 10")
else:
      print("input is not valid")
```

```
enter number 5
```

```
x is less than 10
```

```
#How do you write a conditional statement to execute code only if a
number is even?

x=int(input("enter the number"))
if(x%2==0):
      print("even")
else:
      print("odd")
```

```
enter the number 44
```

```
even
```

```
#How can you use an if statement to determine if a list is empty?

list=[]
if(len(list)==0):
    print("empty")
else:
    print("not")
```

```
empty
```

```
#What does the pass statement do in an if block?
#nothing is printed but you avoid getting an error when empty code is
not
# allowed. Empty code is not allowed in loops, function definitions,
class
# definitions,
#  or in if statements.

#How can you nest if statements inside each other?
a=input("enter any character")
if(a=='a'):
    num=int(input("enter number"))
    if(num>50):
        print("greater than 50")
    else:
        print("number less than 60")
else:
    print("input is not valid")
```

```
enter any character 40
```

```
input is not valid
```

```
#What will be the result if no conditions in an if-elif-else chain are
met?
#---->if else is not presentr nothing will print
#---->if else is present else part will print

#How do you check if a number is divisible by both 3 and 5 using an if
statement?

a=int(input("enter number"))
if(a%3==0 and a%5==0):
    print("divisible by both")
else:
    print("not divisible")
```

```
enter number 45
```

```
divisible by both
```

```
#What is the result of the following if statement: if x &gt; 5: print(&quot;x is large&quot;) else: print(&quot;x is small&quot;) #where x is 3?

x=3
if(x>5):
    print("x is large")
else:
    print("x is small")
```

```
x is small
```