QUESTION 1: Write a program that asks the user to input marks of three subjects and computes the average for it. The average should then be compared 40, and the output display should be Pass/Fail depending upon whether the marks are greater/lesser than 40.

sub\_1 = int(input("Enter the marks of 1: "))  
sub\_2 = int(input("Enter the marks of 2: "))  
sub\_3 = int(input("Enter the marks of 3: "))  
  
avg = (sub\_1+sub\_2+sub\_3)/3  
  
if avg>40:  
 print("Pass")  
else:  
 print("Fail")

QUESTION 2: Write a program that takes two lists as an input and appends them. The second list could either be a single number or a list of numbers.

list1 = []  
list2 = []  
n1 = int(input("How many elements do you want? "))  
for i in range(n1):  
 i = input("Enter the element: ")  
 list1.append(i)  
print(list1)  
n2 = int(input("How many elements do you want? "))  
for i in range(n2):  
 i = input("Enter the element: ")  
 list2.append(i)  
print(list2)  
  
list3 = list1+list2  
print(list3)

QUESTION 3: Write a program with a function that inputs a string and the output has to be a new string with first letter of every word capitalized. For instance, if the sentence is “Hello how are you." the output should be “Hello How Are You".

Method 1:

string = str(input("Enter the string:"))  
words = string.split(" ")  
new\_string = ""  
for i in words:  
 for j in range(len(i)):  
 if j == 0:  
 new\_string += " "  
 new\_string += i[0].upper()  
 else:  
 new\_string += i[j]  
  
print(new\_string)

Method 2:

string = str(input("Enter the string: "))  
  
def func(string):  
 words = string.split(" ")  
 new\_string = ""  
 for i in words:  
 for j in range(len(i)):  
 if j == 0:  
 if ord(i[0]) >= 97 and ord(i[0]) <= 122:  
 new\_string += (chr(ord(i[0]) - 32))  
 else:  
 new\_string += i[j]  
 new\_string += " "  
 return new\_string  
  
print(func(string))

QUESTION 4: Write a program for insertion and deletion of elements in a list. On selection of deletion option, a submenu should be displayed to ask if the element is to be deleted by value or by position or a slice of elements has to be deleted and accordingly the output is generated.

list = [1, "a", "#", "+", 6, 0, "hello", "nice"]  
print(list)  
ask\_user = input("Do you want to insert or delete?")  
ask\_user.lower()  
if ask\_user == "insert":  
 ask\_user\_2 = input("Type the item to be inserted:")  
 list.append(ask\_user\_2)  
 print(list)  
else:  
 ask\_user\_3 = int(input("Do you want to delete by value or by position or a slice of elements is to be deleted? Type 1 or 2 or 3:"))  
 ask\_user\_4 = int(input("Enter the number:"))  
 if ask\_user\_3 == 1:  
 list.remove(ask\_user\_4)  
 print(list)  
 elif ask\_user\_3 == 2:  
 list.pop(ask\_user\_4)  
 print(list)  
 elif ask\_user\_3 == 3:  
 ask\_user\_5 = int(input("Enter another number:"))  
 print(list[ask\_user\_4:ask\_user\_5+1])  
 else:  
 print("Something went wrong.")

QUESTION 5: Write a program to input a string of numbers separated by a space “ “. Generate a list of numbers from this string and sort the list using selection sort.

def selectionSort(array, size):  
 for i in range(size):  
 min\_index = i  
  
 for j in range(i + 1, size):  
 # select the minimum element in every iteration  
 if array[j] < array[min\_index]:  
 min\_index = j  
 # swapping the elements to sort the array  
 (array[i], array[min\_index]) = (array[min\_index], array[i])  
  
  
  
size = int(input("What do you want the size of array to be?"))  
arr = []  
for k in range(size):  
 ask = input("Enter the elements: ")  
 arr.append(ask)  
selectionSort(arr, size)  
print('The array after sorting in Ascending Order by selection sort is:')  
print(arr)

QUESTION 6: Write a program which takes email IDs of n students and stores in a tuple. Two new tuples are to be created from it- first one having the user names of the email IDs and the second one having the domain names only. The final output should display all three tuples.

ask\_user = int(input("Mention the no. of email IDs: "))  
t = ()  
l = list(t)  
for i in range(ask\_user):  
 ask\_user\_1 = input("Enter the email address: ")  
 l.append(ask\_user\_1)  
  
j = 1  
username\_tuple = ()  
domain\_tuple = ()  
username\_list = list(username\_tuple)  
domain\_list = list (domain\_tuple)  
for i in l:  
 another\_list = i.split("@")  
 j += 1  
 username\_list.append((another\_list)[0])  
 domain\_list.append((another\_list)[1])  
  
username\_tuple = tuple(username\_list)  
domain\_tuple = tuple(domain\_list)  
t = tuple(l)  
print(username\_tuple)  
print(domain\_tuple)  
print(t)

QUESTION 7: Write a program that inputs a string and print following information about that string:

Number of alphabets

Number of digits

Number of symbols

Number of uppercase alphabets

Number of lowercase alphabets

# Number of alphabets  
# Number of digits  
# Number of symbols  
# Number of uppercase alphabets  
# Number of lowercase alphabets  
  
ask\_user = input("Enter the string: ")  
alpha = 0  
dig = 0  
sym = 0  
upalpha = 0  
lowalpha = 0  
for i in ask\_user:  
 if 65 <= ord(i) <= 90 or 97 <= ord(i) <= 122:  
 alpha += 1  
 if 48 <= ord(i) <= 57:  
 dig += 1  
 if 33 <= ord(i) <= 47 or 58 <= ord(i) <= 64 or 91 <= ord(i) <= 96:  
 sym += 1  
 if 65 <= ord(i) <= 90:  
 upalpha += 1  
 if 97 <= ord(i) <= 122:  
 lowalpha += 1  
print(alpha)  
print(dig)  
print(sym)  
print(upalpha)  
print(lowalpha)

QUESTION 8: Write a program to find out longest common subsequence from an input string just having the consonants.

vowels =['a','e','i','o','u','A','E','I','O','U']  
str = input("input your string: ")  
h =''  
for i in str:  
 if i not in vowels:  
 h= h+i  
 else:  
 continue  
words = h.split()  
ans = max(words,key = len)  
print("longest common subsequence",ans)

QUESTION 9: Write a program in python that takes a string as input to setup a password. Your entered password must meet the following requirements:

The password must be at least five characters long.

It must contain the symbol “&”.

It must contain at least one uppercase and one lowercase letter.

# The password must be at least five characters long.  
# It must contain the symbol “&”.  
# It must contain at least one uppercase and one lowercase letter.  
  
ask\_user = input("Enter the string: ")  
  
def length(sample):  
 if len(sample) >= 5:  
 return 1  
 else:  
 return 0  
  
def symbol(sample):  
 if "&" in sample:  
 return 1  
 else:  
 return 0  
def letter(sample):  
 uppercase = 0  
 lowercase = 0  
 for i in sample:  
 if 65 <= ord(i) <= 90:  
 uppercase = 1  
 break  
 for i in sample:  
 if 97 <= ord(i) <= 122:  
 lowercase = 1  
 break  
 if lowercase and uppercase == 1:  
 return 1  
 if lowercase and uppercase == 0:  
 return 0  
  
if length(ask\_user):  
 if symbol(ask\_user):  
 if letter(ask\_user):  
 print("Password Valid")  
 else:  
 print("Password Invalid")  
 else:  
 print("Password Invalid")  
else:  
 print("Password Invalid")

QUESTION 10: Write a program that takes an integer as an input and generates its binary equivalent.

ask\_user = int(input("Enter the number: "))  
list = []  
while(ask\_user!=0):  
 if (ask\_user)&1 == 1:  
 list.append('1')  
 else:  
 list.append('0')  
 ask\_user = ask\_user>>1  
print(" ".join(list[::-1]))