Python Practice questions

1) Write a program to print every character of a string entered by user in a new line using loop.

a = raw\_input()

**for** i **in** a:

**print i**

2) Write a program to find the length of the string "refrigerator" without using **len** function.

a = "refrigerator"

count = 0

**for** i **in** a:

count = count+1

**print** count

3) Write a program to check if the letter 'e' is present in the word 'Umbrella'.

**print** 'e' **in** 'Umbrella'

4) Write a program to check if the word 'orange' is present in the "This is orange juice".

a = "This is orange juice"

**print** 'orange' **in** a.split()

5) Write a program to find the first and the last occurrence of the letter 'o' and character ',' in "Hello, World".

### 6) Write a program that takes your full name as input and displays the abbreviations of the first and middle names except the last name which is displayed as it is. For example, if your name is Robert Brett Roser, then the output should be R.B.Roser.

a = "Robert Brett Roser"

a = a.split()

b = a[0][0]+". "+a[1][0]+". "+a[2]

**print** b

7) Count the occurrences of the letter 'e' and the word 'is' in the sentence "This is umbrella".

8) Write a program to find out the largest and smallest word in the string "This is an umbrella".

a = "This is an umbrella"

a = a.split()

maxx = a[0]

max\_len = len(a[0])

**for** i **in** a:

**if** len(i)>max\_len:

max\_len = len(i)

maxx = i

**print** maxx

*#similarly find minimum*

9) Write a program to check if a given string is a Palindrome.  
A palindrome reads same from front and back e.g.- aba, madam, mom, etc.

# function to check string is

# palindrome or not

def isPalindrome(s):

# Using predefined function to

# reverse to string print(s)

rev = ''.join(reversed(s))

# Checking if both string are equal or not

if (s == rev):

return True

return False

# main function

s=input(str)

ans = isPalindrome(s)

if (ans):

print("String is Palindrome")

else:

print("Not palindrome")

### 10) Join two string using '+'. E.g.-"Ajay"+"Sharma" o/p – Ajay Sharma

11) Write a program to make a new string with the word "the" deleted in the sentence "This is the lion in the cage".

a = "This is the lion in the cage"

a = a.split()

**for** i **in** a:

**if** i == "the":

*#a.index(i) will give the index of i in a*

**del**(a[a.index(i)])

**print** a

**print** " ".join(a)

### 12) Store three integers in x, y and z. Print their sum.

x = 10

y = 15

z = 20

### 13) Store three integers in x, y and z. Print their product.

x = 5

y = 10

z = 20

**print** x\*y\*z

### 14) Store two values in x and y and swap them.

x = 10

y = 20

x,y = y,x

**print** x

**print** y

# Practice questions on Read,read,read

1.

### Take input of length and breadth of a rectangle from user and print area of it.

**print** "Enter length"

length = input()

**print** "Enter Breadth"

breadth = input()

**print** length\*breadth

2.

### Ask user to give two float input for length and breadth of a rectangle and print area type casted to int.

**print** "Enter length"

length = raw\_input()

**print** "Enter Breadth"

breadth = raw\_input()

**print** int(float(length)\*float(breadth))

3.

### Take side of a square from user and print area and perimeter of it.

**print** "Enter side"

side = input()

**print** "Area is",side\*side

**print** "Perimeter is",4\*side

4.

### Take name, roll number and field of interest from user and print in the below format : Hey, my name is xyz and my roll number is xyz. My field of interest is xyz

**print** "Enter name"

name = raw\_input()

**print** "Enter roll number"

roll = input()

**print** "Field of interests"

interest = raw\_input()

**print** "Hey, my name is",name,"and my roll number is",roll,". My field of interests are",interest

5.

### Write a program to find square of a number. E.g.- INPUT : 2        OUTPUT : 4 INPUT : 5        OUTPUT : 25

**print** "Enter number to find the square of it"

number = input()

**print** number\*\*2

6.

### Take two different string input and print them in same line. E.g.- INPUT : Codes Dope OUTPUT : CodesDope

**print** "Enter first string"

first = raw\_input()

**print** "Enter seconnd string"

second = raw\_input()

final = first+second

**print** final

# Practice questions on Boolean

1.

### Take two inputs from user and check whether they are equal or not.

**print** "Enter first number"

first = input()

**print** "Enter second number"

second = input()

**print** first == second

2.

### Take 3 inputs from user and check : all are equal any of two are equal ( use and or )

**print** "first number"

first = input()

**print** "second number"

second = input()

**print** "third number"

third = input()

all = first == second **and** second == third **and** third == first

**print** "All are equal:",all

any = first == second **or** second == third **or** third == first

**print** "Any of three are equal:",any

3.

### Take two number and check whether the sum is greater than 5, less than 5 or equal to 5.

**print** "Enter first number"

first = input()

**print** "Enter second number"

second = input()

sum = first+second

**print** "Sum is greater than 5:",sum>5

**print** "Sum is equal to 5:",sum==5

**print** "Sum is lesser than 5:",sum<5

4.

### Judge the follwing expressions : not(True and True) True or False not(False and True) False and False

**print** **not**(True **and** True)

**print** True **or** True

**print** **not**(False **and** False)

**print** False **and** False

5.

### Suppose passing marks of a subject is 35. Take input of marks from user and check whether it is greater than passing marks or not.

pm = 35

marks = input()

**print** "Marks is greater than passing marks:", marks>pm

# Practice questions on Decide if/else

1.

### Take values of length and breadth of a rectangle from user and check if it is square or not.

**print** "Enter length"

length = input()

**print** "Enter breadth"

breadth = input()

**if** length == breadth:

**print** "Yes, it is square"

**else**:

**print** "No, it is only Rectangle"

2.

### Take two int values from user and print greatest among them.

**print** "Enter first number"

first = input()

**print** "Enter second number"

second = input()

**if** first>second:

**print** "Greatest is",first

**elif** second>first:

**print** "Greatest is",second

**else**:

**print** "Both are equal"

3.

### A shop will give discount of 10% if the cost of purchased quantity is more than 1000. Ask user for quantity Suppose, one unit will cost 100. Judge and print total cost for user.

**print** "Enter quantity"

quantity = input()

**if** quantity\*100 > 1000:

**print** "Cost is",((quantity\*100)-(.1\*quantity\*100))

**else**:

**print** "Cost is",quantity\*100

4.

### A company decided to give bonus of 5% to employee if his/her year of service is more than 5 years. Ask user for their salary and year of service and print the net bonus amount.

**print** "Enter salary"

salary = input()

**print** "Enter year of service"

yos = input()

**if** yos>5:

**print** "Bonus is",.05\*salary

**else**:

**print** "No bonus"

5.

### A school has following rules for grading system: a. Below 25 - F b. 25 to 45 - E c. 45 to 50 - D d. 50 to 60 - C e. 60 to 80 - B f. Above 80 - A Ask user to enter marks and print the corresponding grade.

**print** "Enter marks"

marks = input()

**if** marks<25:

**print** "F"

**elif** marks>=25 **and** marks<45:

**print** "E"

**elif** marks>=45 **and** marks<50:

**print** "D"

**elif** marks>=50 **and** marks<60:

**print** "C"

**elif** marks>=60 **and** marks<80:

**print** "B"

**else**:

**print** "A"

6.

### Take input of age of 3 people by user and determine oldest and youngest among them.

**print** "Enter first age"

first = input()

**print** "Enter second age"

second = input()

**print** "third age"

third = input()

**if** first >= second **and** first >= third:

**print** "Oldest is",first

**elif** second >= first **and** second >= third:

**print** "Oldest is",second

**elif** third >= first **and** third >= second:

**print** "Oldest is",third

**else**:

**print** "All are equal"

7.

### Write a program to print absolute vlaue of a number entered by user. E.g.- INPUT: 1        OUTPUT: 1 INPUT: -1        OUTPUT: 1

**print** "Enter a number"

number = input()

**if** number<0:

**print** number\*-1

**else**:

**print** number

8.

### A student will not be allowed to sit in exam if his/her attendence is less than 75%. Take following input from user Number of classes held Number of classes attended. And print percentage of class attended Is student is allowed to sit in exam or not.

**print** "Number of classes held"

noh = input()

**print** "Number of classes attended"

noa = input()

atten = (noa/float(noh))\*100

**print** "Attendence is",atten

**if** atten >= 75:

**print** "You are allowed to sit in exam"

**else**:

**print** "Sorry, you are not allowed. Attend more classes from next time."

9.

### Modify the above question to allow student to sit if he/she has medical cause. Ask user if he/she has medical cause or not ( 'Y' or 'N' ) and print accordingly.

*#Hint only*

*#Do it yourself*

**if** medical\_cause == 'Y':

**print** "You are allowed"

**else**:

**if** atten>=75:

**print** "Allowed"

**else**:

**print** "Not allowed"

# Practice questions on While...

1.

### Take 10 integers from keyboard using loop and print their average value on the screen.

sum = 0

i = 10

**while** i>0:

**print** "Enter number"

num = input()

sum = sum + num

i = i-1

**print** "average is",sum/10.0

2.

### Print the following patterns using loop : a. \* \*\* \*\*\* \*\*\*\* b.    \*    \*\*\*  \*\*\*\*\*  \*\*\*     \*   c. 1010101  10101    101      1

*#a*

i = 1

**while** i<=4:

**print** "\*"\*i

i = i+1

*#b*

i = 1

j = 2

**while** i>=1:

a = " "\*j+"\*"\*i+" "\*j

**print** a

i = i+2

j = j-1

**if** i>5:

**break**

i = 3

j = 1

**while** i>=1:

a = " "\*j+"\*"\*i+" "\*j

**print** a

i = i-2

j = j+1

*#c*

*#Do yourself*

3.

### Print multiplication table of 24, 50 and 29 using loop.

i = 1

**while** i<=10:

**print** 24\*i

i = i+1

4.

### Write an infinite loop. A inifinte loop never ends. Condition is always true.

**while** True:

**print** "INFINITE"

5.

### Factorial of any number n is represented by n! and is equal to 1\*2\*3\*....\*(n-1)\*n. E.g.- 4! = 1\*2\*3\*4 = 24 3! = 3\*2\*1 = 6 2! = 2\*1 = 2 Also, 1! = 1 0! = 1 Write a program to calculate factorial of a number.

**print** "Enter number"

number = input()

fac = 1

**if** number == 0:

**print** 1

**else**:

**while** number>=1:

fac = fac\*number

number = number-1

**print** fac

6.

### Write a program to find greatest common divisor (GCD) or highest common factor (HCF) of given two numbers.

**print** "Enter first number"

x = input()

**print** "Enter second number"

y = input()

*#x,y = 10, 20 means x = 10 y = 20*

**while** y != 0:

x, y = y, x % y

**print** x

7.

### Take integer inputs from user until he/she presses q ( Ask to press q to quit after every integer input ). Print average and product of all numbers.

*# Do it yourself*

*# This type of example is discussed in tutorial*

# Practice questions on While...

## Level 2

1.

### Calculate the sum of digits of a number given by user. E.g.- INUPT : 123        OUPUT : 6 INUPT : 12345        OUPUT : 15

**print** "Enter a number"

number = input()

summ = 0

*#number%10 will give last digit of number*

*#number = number/10 will give new number without that digit*

*#we will stop when number will be smaller than 10*

**while** True:

r = number%10

number = number/10

summ = summ+r

**if** number < 10:

summ = summ+number

**break**

**print** summ

2.

### A three digit number is called Armstrong number if sum of cube of its digit is equal to number itself. E.g.- 153 is an Armstrong number because (13)+(53)+(33) = 153. Write all Armstrong numbers between 100 to 500.

*#Find seperate digits as done in previous question*

*#then find the sum of cubes*

3.

### Write a program to print a number given by user but digits reversed. E.g.- INPUT : 123        OUTPUT : 321 INPUT : 12345        OUTPUT : 54321

# Practice questions on Make a list

## Level 1

1.

### Take 10 integer inputs from user and store them in a list and print them on screen.

i = 10

a = []

**while** i>0:

**print** "Enter number"

num = input()

a.append(num)

i = i-1

**print** a

2.

### Take 10 integer inputs from user and store them in a list. Again ask user to give a number. Now, tell user whether that number is present in list or not. ( Iterate over list using while loop ).

i = 10

a = []

**while** i>0:

**print** "Enter number"

num = input()

a.append(num)

i = i-1

**print** "Enter a number"

n = input()

i = 9

count = 0

**while** i>=0:

**if** n == a[i]:

**print** "Yes"

count = count + 1

i = i-1

**if** count == 0:

**print** "No"

*#python way, without loop*

**if** n **in** a:

**print** "Yes"

**else**:

**print** "No"

3.

### Take 20 integer inputs from user and print the following: number of positive numbers number of negative numbers number of odd numbers number of even numbers number of 0s.

i = 20

a = []

**while** i>0:

**print** "Enter number"

num = input()

a.append(num)

i = i-1

odd = 0

even = 0

zero = 0

positive = 0

negative = 0

i = 19

**while** i>=0:

**if** a[i] == 0:

zero = zero+1

**elif** a[i]>0:

positive = positive + 1

**if** a[i]%2 == 0:

even = even + 1

**else**:

odd = odd + 1

**else**:

negative = negative + 1

**if** a[i]%2 == 0:

even = even + 1

**else**:

odd = odd + 1

i = i-1

**print** "EVEN :",even,"ODD :",odd,"ZERO :",zero,"POSITIVE :",positive,"NEGATIVE :",negative

4.

### Take 10 integer inputs from user and store them in a list. Now, copy all the elements in another list but in reverse order.

i = 10

a = []

**while** i>0:

**print** "Enter number"

num = input()

a.append(num)

i = i-1

*# reverse elements of a*

a.reverse()

*#copied to new list*

b = a

*#again back to initial order*

a.reverse()

5.

### Write a program to find the sum of all elements of a list.

6.

### Write a program to find the product of all elements of a list.

7.

### Initialize and print each element in new line of a list inside list.

a=[[1,2,3],[4,5,6]]

i = 0

**while** i<len(a):

j = 0

**while** j < len(a[i]):

**print** a[i][j]

j = j+1

i = i+1

8.

### Find largest and smallest elements of a list.

a = [2,312,123,3,12,23,12,12]

largest = a[0]

i = 0

**while** i<len(a):

**if** a[i]>largest:

largest = a[i]

i = i+1

**print** largest

*#similarly find smallest*

9.

### Write a program to print sum, average of all numbers, smallest and largest element of a list.

10.

### Write a program to check if elements of a list are same or not it read from front or back. E.g.-

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **2** | 3 | 15 | 15 | 3 | 2 |

*# You can take any list*

a = [1,2,3,3,2,1]

i = 0

mid = (len(a))/2

same = True

**while** i<mid:

**if** a[i] != a[len(a)-i-1]:

**print** "No"

same = False

**break**

i = i+1

**if** same == True:

**print** "Yes"

11.

### Make a list by taking 10 input from user. Now delete all repeated elements of the list. E.g.- INPUT : [1,2,3,2,1,3,12,12,32] OUTPUT : [1,2,3,12,32]

a = [1,2,3,2,1,3,12,12,32]

i = 0

**while** i < len(a):

j = i+1

**while** j < len(a):

**if** a[i] == a[j]:

**del**(a[j])

j=j+1

i = i+1

**print** a

*#python way*

a = [1,2,3,2,1,3,12,12,32]

a = list(set(a))

**print** a

12.

### Take a list of 10 elements. Split it into middle and store the elements in two dfferent lists. E.g.- INITIAL list :

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **58** | 24 | 13 | 15 | 63 | 9 | 8 | 81 | 1 | 78 |

### After spliting :

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **58** | 24 | 13 | 15 | 63 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **9** | 8 | 81 | 1 | 78 |

a = [58,24,13,15,63,9,8,81,1,78]

**print** a[:len(a)/2]

**print** a[len(a)/2:]

13.

### Ask user to give integer inputs to make a list. Store only even values given and print the list.

*#Hint*

**if** num%2 == 0:

a.append(num)