**Report Writing**

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**Program 1- Arithmetic Operators**

a=int(input('enter first number'))

b=int(input('enter the second number'))

print('addition:',a+b)

print('subraction:',a-b)

print('multiplication:',a\*b)

print('division:',a/b)

print('modulus:',a%b)

print('exponentiation:',a\*\*b)

print('floor division:',a//b)

**OUTPUT -** enter first number 10

enter the second number 3

addition: 13 subraction: 7

multiplication: 30

division: 3.3333333333333335

modulus: 1 exponentiation:

1000 floor division: 3

**EXPLANATION -** Thia program is done by Arthimetic Operators like

Addition(+)

subtraction(-)

multiplication(\*)

division(/)

modulus(%)

Exponentiation(\*\*)

floor division(//).

**Program 2 - Comparsion Operators**

a=int(input("enter first number"))

b=int(input("enter second number"))

if a>b:# greater opertor

print("a is greater than b")

elif a==b:# assigment opertor

print("a and b are equal")

elif a<=b:# lesser opertor with assigment opertor

print("a is lesser than b")

else:

print("do nothing")

**OUTPUT -**

enter first number 10

enter second number 3

a is greater than b

**EXPLANATION -** The above code allows the user to input two integers and then compares these two numbers using comparison operators (>, ==, and <=). It prints the results of these comparisons, which will be either True or False.

**Program 3 - Logical Opertors**

a=True

b=False

c=True

print(a and b)#logical opertor and(\*)

print(b and a)

print(a and c)

print(a or b) #logical opertor or(+)

print(b or a)

print(a or c)

print(not a) #logical opertor not(not)

print(not b)

print(not c)

**OUTPUT -**

False

False

True

True

True

True

False

True

False

**EXPLANATION** - The above code takes three boolean inputs from the user and converts them into actual boolean values. It then performs and prints the results of logical operations: AND, OR, and the negation of each value

**Program 4 - String Manipulation**

A=(input("enter the string"))

print(len(A))#length of string

print(A[0],A[-1])#first and last character

print(A[::-1])#reverse order

print(A.upper())#uppercase

print(A.lower())#lowercase

**OUTPUT -**

enter the string shashini

8

s i

inihsahs

SHASHINI

shashini

**EXPLANATION -** The above code takes a string input from the user and displays various information about it: its length, the first and last characters, the string in reverse order, and its uppercase and lowercase forms.

**Program 5 - String Formatting**

name=input("enter the name")

age=int(input("enter the age:"))

print("Hello",name,"you are",age,"years old")

**OUTPUT-** enter the name Shashini

enter the age: 19

Hello Shashini you are 19 years old

**EXPLANATION-** The above code collects a user's name and age and then displays a personalized greeting that includes both pieces of information i.e, name and age.

**Program 6 - Substring Search**

m=str(input("sentence:"))

n=str(input("enter a word:"))

print(m.index(n))

**OUTPUT -**

sentence: i love you

enter a word: love

2

**EXPLANATION -** The above code takes a sentence and a word as input from the user. It checks if the word exists in the sentence and prints the starting index of the word if found; otherwise, it notifies the user that the word was not found.

**Program 7- List Opertions**

a=int(input("enter the number1:"))

b=int(input("enter the number2:"))

c=int(input("enter the number3:"))

d=int(input("enter the number4:"))

e=int(input("enter the number5:"))

f=(a,b,c,d)

print([f])

print(sum(f))

print(max(f))

print(min(f))

**OUTPUT -**

enter the number1: 1

enter the number2: 2

enter the number3: 3

enter the number4: 4

enter the number5: 5

[(1, 2, 3, 4)]

10

4

1

**EXPLANATION -** The above code takes five numbers from the user, stores them in a list, and prints the list. It then calculates and displays the sum of the numbers, as well as the largest and smallest numbers in the list.

**Program 8 - List Manipulation**

fruits=["apple","banana","dargon fruit","mango","custard apple"]

print(fruits)

fruits.append("pineapple")#add one more fruit

print(fruits)

fruits.remove("banana")#remove second fruit

print(fruits)#updated list

**OUTPUT-**

['apple', 'banana', 'dargon fruit', 'mango', 'custard apple']

['apple', 'banana', 'dargon fruit', 'mango', 'custard apple', 'pineapple']

['apple', 'dargon fruit', 'mango', 'custard apple', 'pineapple']

**EXPLANATION-** The above code creates a list of five favorite fruits, adds another fruit ('APPLE'), removes one fruit (‘BANANA'), and then prints the updated list of fruits.

**Program 9 - Sorting a List**

A = int(input("Enter the number 1: "))

B = int(input("Enter the number 2: "))

C = int(input("Enter the number 3: "))

D = int(input("Enter the number 4: "))

E = int(input("Enter the number 5: "))

f = [A, B, C, D, E]

f.sort()#sort the list in ascending order

print("Ascending Order of the list: ", f)

f.sort(reverse=True)#sort the list in descending order

print("Descending Order of the list: ", f)

**OUTPUT -**  Enter the number 1: 1

Enter the number 2: 2

Enter the number 3: 3

Enter the number 4: 4

Enter the number 5: 5

Ascending Order of the list: [1, 2, 3, 4, 5]

Descending Order of the list: [5, 4, 3, 2, 1]

**EXPLANATION -** The above code takes five numbers from the user, stores them in a list, prints the original list, sorts it in ascending order, and prints the sorted list. It then sorts the same list in descending order and prints that as well.

**Program 10 - List Slicing**

Number=[1,2,3,4,5,6,7,8,9,10]

print(Number[:5])

print(Number[-5:])

print(Number[1:7])

**OUTPUT-**

[1, 2, 3, 4, 5]

[6, 7, 8, 9, 10]

[2, 3, 4, 5, 6, 7]

**EXPLANATION-** The above code initializes a list of numbers from 1 to 10 and demonstrates slicing to

print:

• The first five elements,

• The last five elements, and

• The elements from index 2 to index 7.

**BONUS QUESTION**

**Program 11(Bouns Question)**

students = []

for \_ in range(3):

name = input("Enter student name:")

scores = [float(input(f"Enter score {i+1}: ")) for i in range(3)]

students.append([name, scores])

for student in students:

avg = sum(student[1]) / 3

print(student[0], "'s average score:'",avg)

**OUTPUT:-**

Enter student name: Tara

Enter score 1: 69

Enter score 2: 72

Enter score 3: 93

Enter student name: Arpita

Enter score 1: 98

Enter score 2: 73

Enter score 3: 62

Enter student name: Sara

Enter score 1: 95

Enter score 2: 98

Enter score 3: 88

Tara's average score:' 78.0

Arpita's average score:' 77.66666666666667

Sara's average score:' 93.66666666666667

Click to add a cell.

**EXPLANATION:** This above code creates a program that collects the names and scores of three students in three subjects. It calculates and displays each student's average score after all input has been gathered.

**LINK:-**

**Thank you.**