REPORT WRITING

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LINK: prakruthidevanga/Python_assignments: Python_assignments (github.com)

#Program:1

```
a=int (input ('enter first number'))
b=int (input ('enter second number'))
print ('Addition:', a+b)
print ('Subtraction: ', 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 second number 3
Addition: 13
```

Subtraction: 7

Multiplication: 30

Division: 3.3333333333333335

Modulus: 1

Exponentiation: 1000

Floor Division: 3

#EXPLANATION:

This program is done by using Arithmetic Operators like (+, -, *, /, %, ** or ^, //). there are two values a and b are printed with respected arithmetic operators

#Program: 2

```
a=int (input ('enter first number'))
b=int (input ('enter second number'))
if a>b:
   print (' a is greater than b')
elif a==b:
   print ('a and b are equal numbers')
elif a<=b:
```

```
    print ('a is less than b')
else:
    print ('a and b is zero')
```

#Output:

```
enter first number 10
enter second number 3
 a is greater than b
```

#EXPLANATION:

This Program is done by using Comparison Operators like (<,>, ==,!=, <=,>=) and also used if elif else statement to find the greatest

number and lesser number

#Program:3

```
a=True
b=False
c=True
print (a and b)
print (b and c)
print (c and a)
```

```
print (a or b)
print (b or c)
print (c or a)
print (not a)
print (not b)
print (not c)
```

#Output:

```
False
False
True
True
True
True
False
True
False
```

#EXPLANATION:

This program is done by using Logical Operators like (or, and, not) to find weather the given statement is true or false.

#Program:4

```
a=str (input ())

print(len(a))

print(a[0], a[-1])

print(a[::-1])

print(a.upper(),a.lower())
```

#Output:

```
enter a string Prakruthi

length of the string is: 9

index position of first and last character is: P i

revers string ihturkarP

upper_case of string is: PRAKRUTHI

lower_case of string is: prakruthi
```

#EXPLANATION:

This program is done by using String Manipulation to find length of the given string,

finding index position of first and last character and used revers (), upper (), lower ()

#Program:5

```
name=input ("enter a name")
age=int (input ("enter an age"))
print ("Hello",name,"you are",age," years old")
```

#Output:

```
enter a name Prakruthi
enter an age 18
Hello Prakruthi you are 18 years old
```

#EXPLANATION:

This program is done by using String Formatting. here I have taken ‘name’ and ‘age’ has an input from the user and added words like “Hello, you are, years old “to make a sentence in a single line (eg- Hello Prakruthi you are 18 years old)

#Program: 6

```
a=input ("Write a sentence:")
```

```
b=input ("Enter the word you want search for:")
if b in a:
 print (f"The word'{b}'is in the position:'{a.index(b)}' ")
else:
   print (f"The word'{b}' does not exist")
```

#Output:

```
Write a sentence: Iam Prakruthi
Enter the word you want search for: Prakruthi
The word'Prakruthi'is in the position:'4'
```

#EXPLANATION:

This program done by using Substring. here I used index () to find position of word by taking two inputs from the user like a = input (‘write a sentence’) and b= input (‘enter the word you want to search for’)

#Program:7

```
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]
print(f)
print(sum(f))
print(max(f))
print(min(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
[(1, 2, 3, 4, 5)]
15
5
1
```

#EXPLANATION:

This program is done by using List Operations. Here I have taken the 5 inputs from the user and created list [] to finding sum of all list numbers by using sum (), finding largest number in list by using max () and finding smallest number in list by using min ()

#Program:8

```
Fruits= ["Apple", "Orange", "Grapes", "Pineapple", "Mango"]

print (Fruits)

Fruits.append("Goa")

print (Fruits)

Fruits.remove("Pineapple")

print (Fruits)
```

#Output:

```
['Apple', 'Orange', 'Grapes', 'Pineapple', 'Mango']

['Apple', 'Orange', 'Grapes', 'Pineapple', 'Mango', 'Goa']

['Apple', 'Orange', 'Grapes', 'Mango', 'Goa']
```

#EXPLANATION:

This program is done by using List Manipulation Here

I created list [] to add one item in end of the list by using list.append(“”) and remove one item from the list by using list.remove(“”) then print the list

#Program:9

```
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()

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

f.sort(reverse=True)

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

#Output:

```
Enter the number 1:  1

Enter the number 2:  3
```

Enter the number 3: 5

Enter the number 4: 4

Enter the number 5: 2

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

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

#EXPLANATION:

This program is done by using Sorting a list.

Here I have taken 5 inputs from the user and created a list [] to print the list in ascending order by using list.sort() and to print the list in descending order by using list.sort(reverse=True)

#Program:10

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

print ("the first 5 elements are:",Numbers[:5])

print ("the last 5 elements are:",Numbers[-5:])

print ("the elements from index 2 to 7 is:”, Numbers [1:7])
```

#Output:

the first 5 elements are: [1, 2, 3, 4, 5]

the last 5 elements are: [6, 7, 8, 9, 10]

the elements from index 2 to 7 is: [2, 3, 4, 5, 6, 7]

#EXPLANATION:

This program is done by using List Slicing.

Here I created a list [] to print first 5 elements by using list [:5],

to print last 5 elements by using list [-5:]

to print the elements from index (2 to 7) by using

list [1:7]

#Program:11

```
students = []
for _ in range (3):
    name = input ("Enter student name:")
    scores = [float (input (f"Enter score of subject{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: Prakruthi BR

Enter score of subject 1: 85

Enter score of subject 2: 86

Enter score of subject 3: 100

Enter student name: Kruthika P

Enter score of subject 1: 95

Enter score of subject 2: 96

Enter score of subject 3: 100

Enter student name: Amrutha K

Enter score of subject 1: 98

Enter score of subject 2: 99

Enter score of subject 3: 100

Prakruthi BR 's average score:' 90.33333333333333

Kruthika P 's average score:' 97.0

Amrutha K 's average score:' 99.0

#EXPLANATION:

This program is done by using list concept.

Here I created list[] to print each student name and scores of each subject so , I used for loop to give how many subjects (eg – ‘for _in range(3)’) and finding average score of each student by using avg=sum(student[1])/3 then print avg of each student.