

Q1 Write Basic python programs to run on raspberry pi.

(a) Word and character count of a given string.

wordcount = 0

charcount = 0

str = input("Enter a string : ")

splitstring = str.split()

wordcount = len(splitstring)

for word in splitstring:

charcount += len(word)

print('Total words : {} '.format(wordcount))

print('Total characters : {} '.format(charcount))

(b) Print a name 'n' times where name and n are read from standard input, using for & while loops.

using for loop :-

i, name, n = 1, input("Enter the name:"),

int(input("Enter the value of n : "))

for i in range(1, n+1):

print(i, name)

i = i + 1

using while loop :-

name, n, i = input("Enter the name:"), int(input("Enter the value of n : ")), 1

while (i <= n):

print(name)

i = i + 1

Output 2@

Enter a string : Mansi Pareek

Total words : 2

Total characters : 12

2(b)

using for loop

Enter the name : Mansi

Enter the value of n : 3

1 Mansi

2 Mansi

3 Mansi

using while loop

Enter the name : Pareek

Enter the value of n : 2

1 Pareek

2 Pareek

C Area of a given shape (rectangle, triangle and circle)  
reading shape & appropriate values from standard input  
print ("Select one of the following to find area:")  
print ("1. Rectangle\n2. Triangle\n3. Circle")  
choice = input ("Enter your choice:")  
~~choice = input ("Enter your choice if choice == 1")~~  
x = int (input ("Enter length :"))  
y = int (input ("Enter breadth :"))  
print ("Area = %f" % format (x \* y))  
elif choice == '2':  
 x = int (input ("Enter base :"))  
 y = int (input ("Enter height :"))  
 print ("Area = %f" % format (0.5 \* x \* y))  
elif choice == '3':  
 x = int (input ("Enter radius :"))  
 print ("Area = %f" % format (3.14 \* x \* x))  
else:  
 print ("Enter a valid choice")

## Output 2@

Select one of the following to find area:

- 1. Rectangle
- 2. Triangle
- 3. Circle

Enter your choice : 1

Enter length : 5

Enter Breadth : 4

Area = 20

Select one of the following to find area:

- 1. Rectangle
- 2. Triangle
- 3. Circle

Enter your choice : 2

Enter base : 6

Enter height : 8

Area = 24.0

Select one of the following to find area:

- 1. Rectangle
- 2. Triangle
- 3. Circle

Enter your choice : 3

Enter radius : 5

Area = 78.5

- (a) Handle divided by zero exception
- ```
print ("Enter two numbers to divide : ")
n1, n2 = int(input ("Enter number 1 : ")), int(input ("Enter number 2 : "))
try :
    div = n1/n2
    print (div)
except ZeroDivisionError :
    print ("Zero division error")
    print ("Zero division is handles "In "Out of try catch block")
```
- (b) Print current time for 10-times with interval of 10 seconds.
- ```
import time
for i in range (1,11):
    t = time.asctime (time.localtime (time.time () ))
    t = t [11:19]
    print (t)
    print (time. asctime (time.localtime (time.time ())))
```
- (c) sleep (10)
- (d) Read a file line by line and print the word count of each line.
- ```
file = open ("Text.txt", "r")
for i in file:
    print (i)
    z = i.split ()
    print ("WordCount : ", len(z))
    print ("\n")
```

### Output 2@

Enter two numbers to divide:

Enter number 1 : 5

Enter number 2 : 0

Zero division is handled

Out of try catch block.

Enter number 1 : 5

Enter number 2 : 2

2.5

Out of try catch block.

### Output 2@

10:39:59

Mon Sep 6 10:39:59 2021

10:40:09

Mon Sep 6 10:40:09 2021

10:40:19

Mon Sep 6 10:40:19 2021

10:40:29

Mon Sep 6 10:40:29 2021

10:40:39

Mon Sep 6 10:40:39 2021

10:40:49

Mon Sep 6 10:40:49 2021

10:40:59

Mon Sep 6 10:40:59 2021

10:41:09

Mon Sep 6 10:41:09 2021

10:41:19

Mon Sep 6 10:41:19 2021

10:41:29

Mon Sep 6 10:41:29 2021

### Output 2B

Name: Pareek

Word Count :: 2

Hey there , Bye

Word Count : 3