PROJECT ON

Maths with python

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OVERVIEW

- Calculator
- Area finder
- Enhanced multiplication
- Plotting bar graph
- Frequency distribution
- Mean
- Median
- Simple interest
- dice-roll problem

Program-1 calculator

- a=int(input("enter the f
  irst number"))
- b=int(input("enter the
  second number"))
- print("sum is:",a+b)
- print("difference is:",a-
  b)
- print("product is:",a*b)
- print("quotient is:",a/b)
- If numbers are 4,6

```
output is:
enter the first number4
enter the second number6
sum is: 10
difference is: -2
product is: 24
quotient is: 0.6666666666666666
```

Program-2 area finder

- def area_of_circle(r):
- area=3.14*r**2
- return area
- Note – change

Name[circle]

variable[r or b,h] give radius ,base height

formula[area=3.14*r**2]

- def area_of_parallelogram(b,h):
- area=b*h
- return area

output is:

```
area_of_circle(10)
```

```
314.0
```

```
area_of_parallelogram(3,2)
```

```
6
```

Program-3 multiplication table

- a=int(input("Enter the no .to print the table:"))
- b=int(input("enter the nu mber to stop:"))
- for i in range(1,b+1):
- print("{}X{}={}".format(a, i,a*i))

output is:

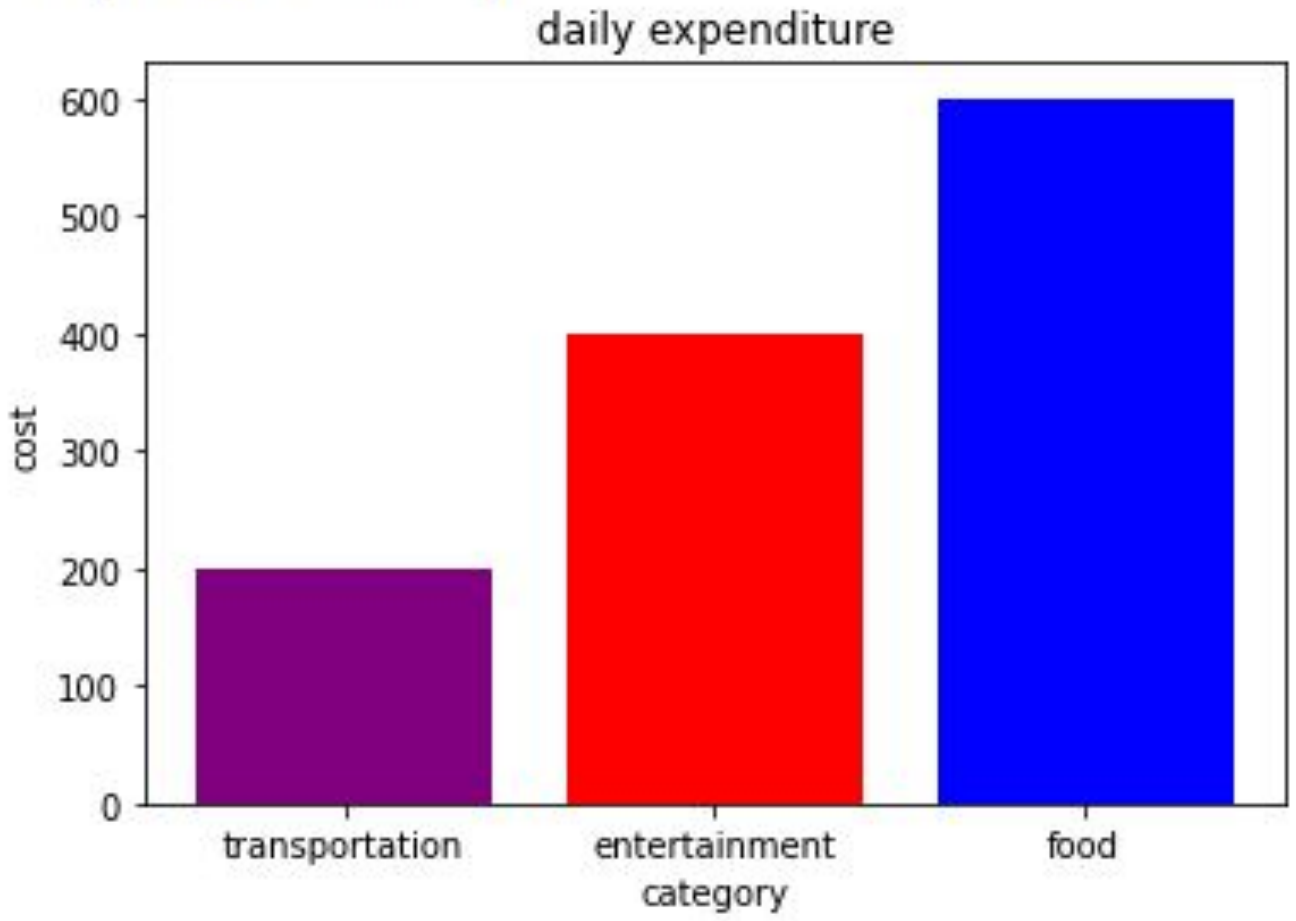
```
Enter the no.to print the table:4
enter the number to stop:10
4X1=4
4X2=8
4X3=12
4X4=16
4X5=20
4X6=24
4X7=28
4X8=32
4X9=36
4X10=40
```

Program-4 bar graph

- import matplotlib.pyplot as plt
- category=["transportation","entertainment", "food"]
- expenditure=[200,400,600]
- plt.bar(category,expenditure,color=["purple" ,"red","blue"])
- plt.title("daily expenditure")
- plt.xlabel("category")
- plt.ylabel("cost")

Output

```
Text(0, 0.5, 'cost')
```



Program-5 frequency table

```
from collections import Counter
list2=[2,2,2,9,9,9,9,20,20,28]

def frequency_table(numbers):
  table=Counter(numbers)
  numbers_freq=table.most_common()
  numbers_freq.sort()
  print("Number\tFrequency")
  for number in numbers_freq:
    print("{}\t{}".format(number[0],number[1]))
```

output is:

```
frequency_table(list2)
```

Number	Frequency
2	3
9	4
20	2
28	1

Program-6 mean

```
list1=[10,900,80,700,60,500,40,300,20,10.5]

def calculate_mean(numbers):
  s=sum(numbers)
  N=len(numbers)
  mean=s/N
  return mean
```

output is:

```
calculate_mean(list1)
```

```
262.05
```

Program-7 median

```
list1=[10,7,5,8,3,4,5]

def calculate_median(numbers):
  N=len(numbers)
  numbers.sort()

  if N%2==0:
   m1=N/2
   m2=+(N/2)+1
   m1=int(m1)-1
   m2=int(m2)-1
   median=(numbers[m1]+numbers[m2])/2
  else:
    m=(N+1)/2
    m=int(m)-1
    median=numbers[m]

  return median
```

output is:

```
calculate_median(list1)

5
```

Program-8 simple interest

output is:

```
def calculate_si(p,t,r):
  si=(p*t*r)/100
print ("The interest at t
he end is",si)
  return
```

```
calculate_si(50000,3,3.5)
```

```
The interest at the end is 5250.0
```

Program-9 dice rolling problem

```
import random
min=1
max=6
roll_again="yes“
while(roll_again=="yes" o
r roll_again=="y"):
print("rolling the dice....")
  print("the value is...")
  print (random.randint(m
in,max))
roll_again= input("roll th
e dice again")
```

output is:

```
rolling the dice....
the value is...
2
roll the dice againy
rolling the dice....
the value is...
1
roll the dice againno
```

Thank you