

Week 1 Programs

1.Program to find sum of first n integers

```
In [1]: n=int(input("Enter the limit n"))
sum=n*(n+1)/2
print("Sum of first",n,"integers is",sum)
```

```
Enter the limit n6
Sum of first 6 integers is 21.0
```

2.Program to convert height given in feets and inches into centimeter

```
In [2]: print("Enter the height in feets and inches")
feet=float(input("Feet="))
inch=float(input("Inches="))
ft_inch=feet*12
total=ft_inch+inch
total_cm=total*2.54
print("Height in cm=",total_cm)
```

```
Enter the height in feets and inches
Feet=5
Inches=3
Height in cm= 160.02
```

3.Program to detect human age and equivalent dog age

```
In [9]: human_age=int(input("Enter the age of the human="))
dog_age=0
if(human_age<0):
    print("Age cannot be negative")
elif human_age==1:
    dog_age=10.5
    print("Equivalent dog age=",dog_age)
elif human_age==2:
    dog_age=2*10.5
    print("Equivalent dog age=",dog_age)
else:
    dog_age=(2*10.5)+((human_age-2)*4)
    print("Equivalent dog age=",dog_age)
```

Enter the age of the human=2
Equivalent dog age= 21.0

4.Program to find the number of days in a given month

```
In [10]: calendar={"January":31,"February":"28 or 29","March":31,"April":30,"May":31,"June":30,"July":31,"August":31,"September":30,"October":31}
month=input("Enter a month:")
print(calendar[month],"days")
```

Enter a month:April
30 days

5. Program to find the mean of original marks and the mean decreased by 1 and increased by 2 individually

```
In [2]: marks=[38,41,36,31,45,38,27,32,29,39]
mean=sum(marks)/len(marks)
print("Mean of the original marks=",mean)
print("")
marks_increased=[]
for i in marks:
    new=i+2
    marks_increased.append(new)
print(marks_increased)
mean_increased=sum(marks_increased)/len(marks_increased)
print("Mean of marks when increased by 2 ndividually",mean_increased)
print("")
marks_reduced=[]
for i in marks:
    new=i-1
    marks_reduced.append(new)
print(marks_reduced)
mean_reduced=sum(marks_reduced)/len(marks_reduced)
print("Mean of marks when reduced by 1 individually",mean_reduced)
print("")
marks_halved=[]
for i in marks:
    new=i/2
    marks_halved.append(new)
print(marks_halved)
mean_halved=sum(marks_halved)/len(marks_halved)
print("Mean of marks when halved",mean_halved)
```

Mean of the original marks= 35.6

[40, 43, 38, 33, 47, 40, 29, 34, 31, 41]

Mean of marks when increased by 2 ndividually 37.6

[37, 40, 35, 30, 44, 37, 26, 31, 28, 38]

Mean of marks when reduced by 1 individually 34.6

[19.0, 20.5, 18.0, 15.5, 22.5, 19.0, 13.5, 16.0, 14.5, 19.5]

Mean of marks when halved 17.8

6.Program to find average number of misprints

```
In [9]: mprints=[0,1,2,3,4,5]
numofpages=[164,95,34,7,5,2]
sumfi=0
fixi=[]
sumfixi=0
for i in range(0,len(mprints)):
    fixi.append(mprints[i]*numofpages[i])
print("fixi=",fixi)
for i in range(0,len(fixi)):
    sumfixi=sumfixi+fixi[i]
print("Summation of fixi=",sumfixi)
for i in range(0,len(numofpages)):
    sumfi=sumfi+numofpages[i]
print("Summation of fi=",sumfi)
numofmprints=sumfixi/sumfi
print("Average number of misprints=",numofmprints)
```

```
fixi= [0, 95, 68, 21, 20, 10]  
Summation of fixi= 214  
Summation of fi= 307  
Average number of misprints= 0.6970684039087948
```

7.Program to check whether a string is Pallindrome or not

```
In [10]: word=input("Enter a word to be checked:")  
reverse=""  
for i in reversed(range(0,len(word))):  
    reverse=reverse+word[i]  
print("Original Word:",word)  
print("Reverse is:",reverse)  
if reverse==word:  
    print("The word",word,"is a pallindrome")  
else:  
    print("The word",word,"is not a pallindrome")
```

```
Enter a word to be checked:gadag  
Original Word: gadag  
Reverse is: gadag  
The word gadag is a pallindrome
```