**Python Practice Programs:-**

1. In the given list of elements, all elements are equal except one. Write a code to find the odd man out (Stray number).

lis\_len = int(input("Enter the length of the list : "))  
lis = list(map(int, input("\nEnter the numbers : ").strip().split()))[:lis\_len]  
  
for i in range(len(lis)):  
 for j in range(i, len(lis)):  
 if lis[i] > lis[j]:  
 lis[i], lis[j] = lis[j], lis[i]  
  
if lis[0] != lis[1]:  
 print("Odd man out is ", lis[0])  
if lis[-1] != lis[-2]:  
 print("Odd man out is ", lis[-1])

1. In the given list of elements find the elements which is close to its mean.

lis\_len = int(input("Enter the length of the list : "))  
lis = list(map(int, input("\nEnter the numbers : ").strip().split()))[:lis\_len]  
  
avg = sum(lis)/len(lis)  
  
dif = abs(lis[0]-avg)  
for i in range(1, len(lis)-1):  
 dif1 = abs(lis[i] - avg)  
 if dif1 < dif:  
 dif = dif1  
 j = i  
print(f"The mean is {avg} and the nearest number is {lis[j]}")

1. Find the average speed of vehicle given the distance travelled for fixed time intervals.
2. Find the number of people in the bus, given the data of onboarding people & alighting at each station.
3. Find the missing number, given the original list and the modified list.

lis\_len1 = int(input("Enter the length of the list 1 : "))  
l1 = list(map(int, input("\nEnter the numbers : ").strip().split()))[:lis\_len1]  
  
lis\_len2 = int(input("Enter the length of the list 2 : "))  
l2 = list(map(int, input("\nEnter the numbers : ").strip().split()))[:lis\_len2]  
  
for i in l1:  
 if i not in l2:  
 print(i)

1. Find the difference between two lowest numbers in the list.

lis\_len = int(input("Enter the length of the list : "))  
lis = list(map(int, input("\nEnter the numbers : ").strip().split()))[:lis\_len]  
  
lis.sort()  
print(lis[1]-lis[0])

1. In the given list, count the number of elements smaller than their mean.

lis\_len = int(input("Enter the length of the list : "))  
lis = list(map(int, input("\nEnter the numbers : ").strip().split()))[:lis\_len]  
  
mean = sum(lis)/len(lis)  
small = 0  
  
for i in lis:  
 if i<mean:  
 small += 1  
print(f"{small} elements are smaller than the mean {mean}")

1. Correct the malformed time string.

mal\_time = input("Enter the malformed time string : ")  
mal\_list = mal\_time.split(":")  
for i in range(len(mal\_list)):  
 mal\_list[i] = int(mal\_list[i])  
  
second = mal\_list[2]%60  
minute = (mal\_list[1] + mal\_list[2]//60)%60  
hour = (mal\_list[0] + mal\_list[1]//60) % 24  
  
if second<10:  
 second = '0' + str(second)  
if minute<10:  
 minute = '0' + str(minute)  
if hour<10:  
 hour = '0' + str(hour)  
  
time = str(hour) + ":" + str(minute) + ":" + str(second)  
print("Actual time is " + time)

1. Correct the malformed date string.

mal\_date = input("Enter the malformed date : ")  
cal\_days = [31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30 ,31]  
date\_list = mal\_date.split("/")  
  
for i in range(len(date\_list)):  
 date\_list[i] = int(date\_list[i])  
if date\_list[2]%4==0:  
 cal\_days[1] = 29  
#print(cal\_days[1])  
day = date\_list[0]  
mon = date\_list[1]  
while day > cal\_days[(mon%12)-1]:  
 day = day - cal\_days[(mon%12)-1]  
 month = mon  
 mon = (mon+1)%12  
year = date\_list[2]  
year = year + month//12  
  
if day<10:  
 day = '0' + str(day)  
if mon<10:  
 mon = '0' + str(mon)  
  
print(str(day) + '/' + str(mon) + '/' + str(year))

1. Convert IP address from “a.b.c.d” format into integer and vice versa.
2. Check whether the string is Isogram or not.

string\_ip = input("Enter the string : ")  
flag = 0  
for i in range(len(string\_ip)):  
 for j in range(i+1,len(string\_ip)):  
 if string\_ip[i]==string\_ip[j]:  
 flag = 1  
 break  
 if flag==1:  
 break  
if flag == 0:  
 print("Isogram")  
else:  
 print("Not an Isogram")

1. Given the string, find the Mexican wave.

wave = input("Enter the input string : ")  
result = []  
for i in range(len(wave)):  
 wave = wave.lower()  
 temp\_list = list(wave)  
 if temp\_list[i].isalpha():  
 temp\_list[i] = wave[i].upper()  
 wave = ''.join(temp\_list)  
 result.append(wave)  
print(result)

1. Given a number, find the largest number by deleting a single digit (order of digits remain same)

n = int(input("Enter the number : "))  
mx = 0  
for i in range(len(str(n))):  
 temp = int(str(n)[:i]+str(n)[i+1:])  
 mx = max(mx,temp)  
print(mx)

1. Given a number, find the largest number by shuffling the digits.

res = [0 for i in range(10)]  
n = int(input("Enter the number : "))  
while n:  
 res[n % 10] += 1  
 n //= 10  
ans = ""  
i = 9  
while i>=0:  
 while res[i] != 0:  
 ans += str(i)  
 res[i] -= 1  
 i -= 1  
if len(ans) == 0:  
 print(0)  
else:  
 print(ans)

1. Compute the word frequency in the given message.

word = input("Enter the sentence : ")  
cnt = 0  
for i in word:  
 if i == ' ':  
 cnt += 1  
print(cnt+1)

1. RGB to Hex conversion and vice versa.
2. Generate accumulated strings.

n = input("Enter the input string : ")  
ans = ''  
i = 0  
for x in n:  
 ans += x.upper()  
 for \_ in range(i):  
 ans += x  
 ans += '-'  
 i += 1  
print(ans[:-1])