

```
def sort(num):  
    n=len(num)  
    for i in range(n):  
        for j in range(i+1,n):  
            if num[j]<num[i]:  
                num[i],num[j]=num[j],num[i]  
    return num  
  
numbers=input("Enter a list of numbers seperated by space :")  
n=numbers.split()  
l=[]  
for i in n:  
    l.append(i)  
print("Sorted List of Numbers:",sort(l))
```

```
def list_of_frequency(s):  
    d={}  
    for i in s:  
        if i in d:  
            d[i]+=1  
        else:  
            d[i]=1  
    di = dict(sorted(d.items(), key=lambda x: x[1], reverse=True))  
    l=list(di.keys())  
    return l  
s=input("Enter a string : ")  
a=list_of_frequency(s)  
print("Letters in non-increasing order of the frequency of their occurrences: ")  
for i in a:  
    print(i,end=" ")
```

```
s=input("Enter a string : ")
if s==s[::-1]:
    print(f"{s} is palindrome")
else:
    print(f"{s} is not a palindrome")
```

```
def factorial(n):  
    if n == 0 or n == 1:  
        return 1  
    else:  
        return n * factorial(n - 1)
```

```
def sine(n,x):  
    s=0  
    for i in range(n):  
        term = ((-1) ** i) * (x ** (2 * i + 1)) / factorial(2 * i + 1)  
        s=s+term  
    return s
```

```
x=int(input("Enter the value of x : "))
```

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

```
print(f"Value of the series  $\sin(\{x\}) = \{x\} - (\{x\}^3/3!) + (\{x\}^5/5!) + \dots$  upto  $\{n\}$  terms is ",sine(n,x))
```

```
print(factorial(n))
```

```
def armstrong(n):  
    num_str=str(n)  
    l=len(num_str)  
    s=0  
    for i in num_str:  
        a=int(i)  
        s=s+(a**l)  
    if(s==n):  
        return True  
    else:  
        return False  
  
ll=int(input("Enter the lower limit : "))  
ul=int(input("Enter the upper limit : "))  
l=[]  
for i in range(ll,ul+1):  
    if armstrong(i):  
        l.append(i)  
print(f"Armstrong Numbers between {ll} and {ul} are {l}")
```

```
n=input("Enter a list of integers separated by spaces : ")
```

```
s=int(input("Enter the step number : "))
```

```
num=n.split()
```

```
l=[]
```

```
for i in num:
```

```
    l.append(i)
```

```
a=len(l)
```

```
b=a-s
```

```
lst=l[b:]+l[:b]
```

```
print("List after rotating : ",lst)
```

```
y=int(input("Enter a year : "))  
if(y%4==0 and(y%400==0 or y%100!=0)):  
    print(y,"is a leap year")  
else:  
    print(y,"is not a leap year")
```

```

def total_marks(marks):
    return sum(marks)

def average_marks(marks):
    return sum(marks) / len(marks)

def students_above_average(student_data, a):
    print(f"\nStudents with average marks above {a}:")
    for student, marks in student_data.items():
        avg = average_marks(marks)
        if avg > a:
            print(f"Student: {student}, Average Marks: {avg:.2f}")

student_data = {}
num_students = int(input("Enter the number of students: "))

for _ in range(num_students):
    name = input("\nEnter student's name: ")
    marks = []

    for i in range(1, 4):
        mark = float(input(f"Enter marks for subject {i}: "))
        marks.append(mark)

    student_data[name] = marks

print("\nStudent Records:")
for student, marks in student_data.items():
    total = total_marks(marks)
    avg = average_marks(marks)
    print(f"Student: {student}, Total Marks: {total}, Average Marks: {avg:.2f}")

a = float(input("\nEnter the average marks a: "))
students_above_average(student_data, a)

```