In [14]:
```
#mean
def mean(list):

    sum=0
    for i in list:
        sum=sum+i

    mean=sum/len(list)
    return mean

list=(10,20,30,40,50,60,70)
print("mean",mean(list))
```

```
mean 40.0
```

In [8]:
```
#median
l1=(10,20,30,40,50,60,70)
i=int(len(l1)/2)
if(i%2==0):
    res=(l1[i]+l1[i+1])/2
else:
    res=l1[i]
print("median",res)
```

```
median 40
```

In [9]:
```
#mode
l1=(10,20,30,30,40,50,60,70)
d={}
for i in l1:
    if i in d:
        d[i]=d[i]+1
    else:
        d[i]=1
max=0
for i in d:
    if(d[i]>max):
        max=d[i]
        ans=i
print("MODE",ans)
```

```
MODE 30
```

In [10]:
```
#variance
def var(l):
    ans=mean(l)

    sum=0
    for i in l:
        sum+=(ans-i)**2

    return sum/len(l)
l=(10,20,30,40,50,60,70)
print("variance",var(l))
```

```
variance 400.0
```

In [11]:
```
#standard deviation
def sd(l):
    temp=var(l)
    return temp**0.5

l=(10,20,30,40,50,60,70)
print("standard deviation",sd(l))
```

```
standard deviation 20.0
```

In [12]:
```
#normalization
def nor(l):
    min=l[0]
    max=l[0]
    for i in l:
        if(i>max):
            max=i
        elif(i<min):
            min=i

    for i in l:
        print((i-min)/(max-min))

l=(10,20,30,40,50,60,70)
nor(l)
```

```
0.0
0.16666666666666666
0.3333333333333333
0.5
0.6666666666666666
0.8333333333333334
1.0
```

In [16]:
```
#standardization
def std(l):
    for i in l:
        print((i-mean(l))/sd(l))
l=(10,20,30,40,50,60,70)
std(l)
```

```
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
```

In [ ]: