Taller 1

Estadistica 1

A continuación se listan los tiempos de duración (en segundos) de las erupciones del géiser Old Faithful en el Parque Nacional de Yellowstone. Utilice estos tiempos para elaborar una distribución de frecuencias. Use 6 clases, y encuentre la distribución de frecuencias, frecuencias relativas y frecuencias acumuladas. Grafique tambien el histograma.

125	203	205	221	225	229	233	233	235	236	236	237	238	238	239	240	240
240	240	241	241	242	242	242	243	243	244	245	245	245	245	246	246	248
248	248	249	249	250	251	252	253	253	255	255	256	257	258	262	264	

```
datos = [125, 203, 205, 221, 225, 229, 233, 233, 235, 236, 236, 237, 238, 238, 239, 240

n = 6;

vMax = max(datos);
vMin = min(datos);

anchura = round((vMax -vMin) / n);

limInf1 = vMin
```

```
limInf1 = 125
```

```
limInf2 = limInf1 + anchura * 1
```

```
limInf2 = 148
```

```
limInf3 = limInf1 + anchura * 2
```

```
limInf3 = 171
```

```
limInf4 = limInf1 + anchura * 3
```

```
limInf4 = 194
```

```
limInf5 = limInf1 + anchura * 4
```

```
limInf5 = 217
```

```
limInf6 = limInf1 + anchura * 5
```

```
limInf6 = 240
```

```

limSup1 = limInf2 - 1
```

```
limSup1 = 147
```

```
limSup2 = limInf3 - 1
```

```
limSup2 = 170
```

```
limSup3 = limInf4 - 1
```

```
limSup3 = 193
```

```
limSup4 = limInf5 - 1
```

```
limSup4 = 216
```

```
limSup5 = limInf6 - 1
```

```
limSup5 = 239
```

```
limSup6 = vMax
```

```
limSup6 = 264
```

```
%Distribución de las frecuencias
freq1 = size(find(datos>=limInf1 & datos<=limSup1),2)
```

```
freq1 = 1
```

```
freq2 = size(find(datos>=limInf2 & datos<=limSup2),2)
```

```
freq2 = 0
```

```
freq3 = size(find(datos>=limInf3 & datos<=limSup3),2)
```

```
freq3 = 0
```

```
freq4 = size(find(datos>=limInf4 & datos<=limSup4),2)
```

```
freq4 = 2
```

```
freq5 = size(find(datos>=limInf5 & datos<=limSup5),2)
```

```
freq5 = 12
```

```
freq6 = size(find(datos>=limInf6 & datos<=vMax),2)
```

```
freq6 = 35
```

```
%Frecuencias relativas

freqRl1 = freq1 / 50
```

```
freqRl1 = 0.0200
```

```
freqRl2 = freq2 / 50
```

```
freqRl2 = 0
```

```
freqRl3 = freq3 / 50
```

```
freqRl3 = 0
```

```
freqRl4 = freq4 / 50
```

```
freqRl4 = 0.0400
```

```
freqRl5 = freq5 / 50
```

```
freqRl5 = 0.2400
```

```
freqRl6 = freq6 / 50
```

```
freqRl6 = 0.7000
```

```
%Frecuencias acumuladas

freqAC1 = freq1
```

```
freqAC1 = 1
```

```
freqAC2 = freq2 + freqAC1
```

```
freqAC2 = 1
```

```
freqAC3 = freq3 + freqAC2
```

```
freqAC3 = 1
```

```
freqAC4 = freq4 + freqAC3
```

```
freqAC4 = 3
```

```
freqAC5 = freq5 + freqAC4
```

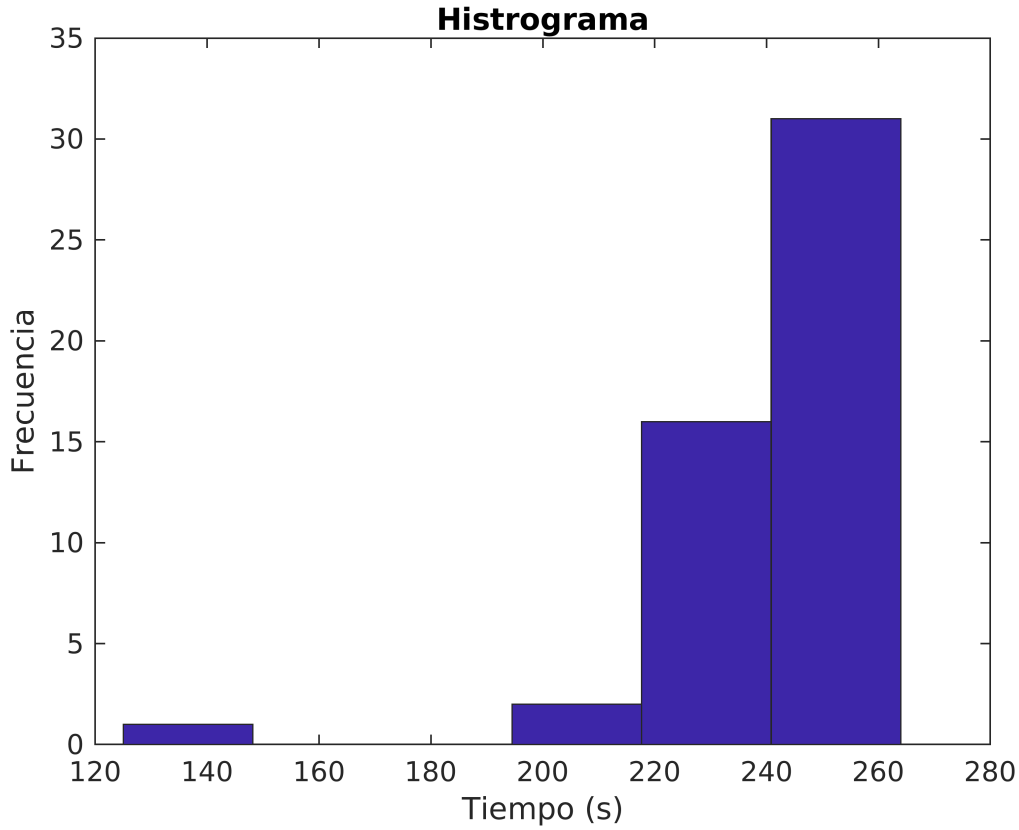
```
freqAC5 = 15
```

```
freqAC6 = freq6 + freqAC5
```

```
freqAC6 = 50
```

```


hist(datos,6)
xlabel('Tiempo (s)')
ylabel('Frecuencia')
title('Histrograma')
```


Histrograma
Frecuencia
Tiempo (s)
0
5
10
15
20
25
30
35
120
140
160
180
200
220
240
260
280