```python
import numpy as np
import matlplotlib as plt
# 1
cities=np.array("city a","city b","city c","city d")
sum_temp=0
arr=np.array([30, 32, 31, 29, 28, 27, 26],[35, 34, 36, 33, 32, 31, 30],[25, 26, 27, 28, 29, 30,
31],[22, 23, 24, 25, 26, 27, 28]])
for j in range(1,4):
    for i in range(1,7):
        avg_temp=np.mean(arr)
    print("the average temp for the city is ",avg_temp)


for j in range(1,4):
    for i in range(1,7):
        max_temp=max(arr[i])
        min_temp=min(arr[i])
    print("the maximum and minimum temp for city is ",max_temp, min_temp)


#2
def avg_temp_week(cities):
    for j in range(1,4):
        for i in range(1,7):
            sum_temp+=arr[i]
            avg_temp=sum_temp/7
    print("the average temp for the city is ",avg_temp)


#3
for i in range(4):
    plt.plot(cities,);
plt.title("temerature trends over the 7 days")
plt.x_label("city")
plt.y_label("temperature")
plt.legend()
plt.show()
#4
for j in range(1,4):
    for i in range(1,7):
        max_temp=max(arr[i])
        min_temp=min(arr[i])
    range_city=max_temp-min_temp
plt.bar(range_city,cities)
```