In [10]:
```python
# Box Plot & Whisker Plot
```
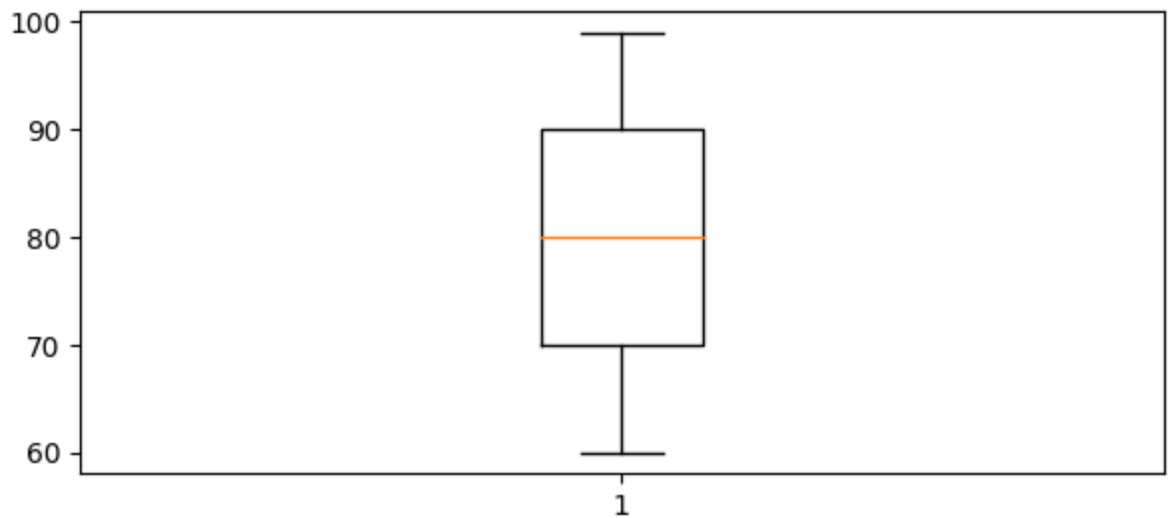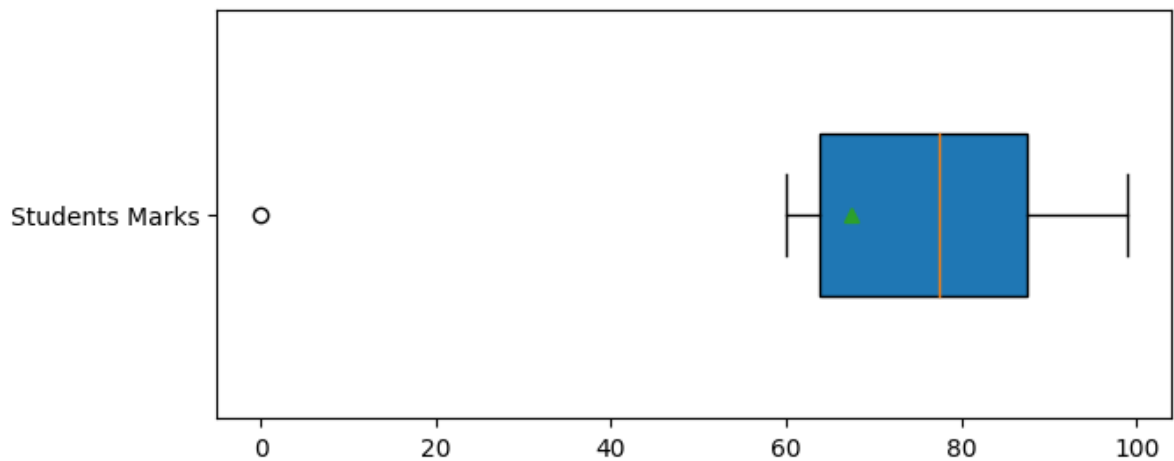
In [1]:
```python
import matplotlib.pyplot as plt
plt.figure(figsize=(7,3))
x =[60,70,80,90,99]
plt.boxplot(x)
#plt.show()
plt.savefig('box.png')
```
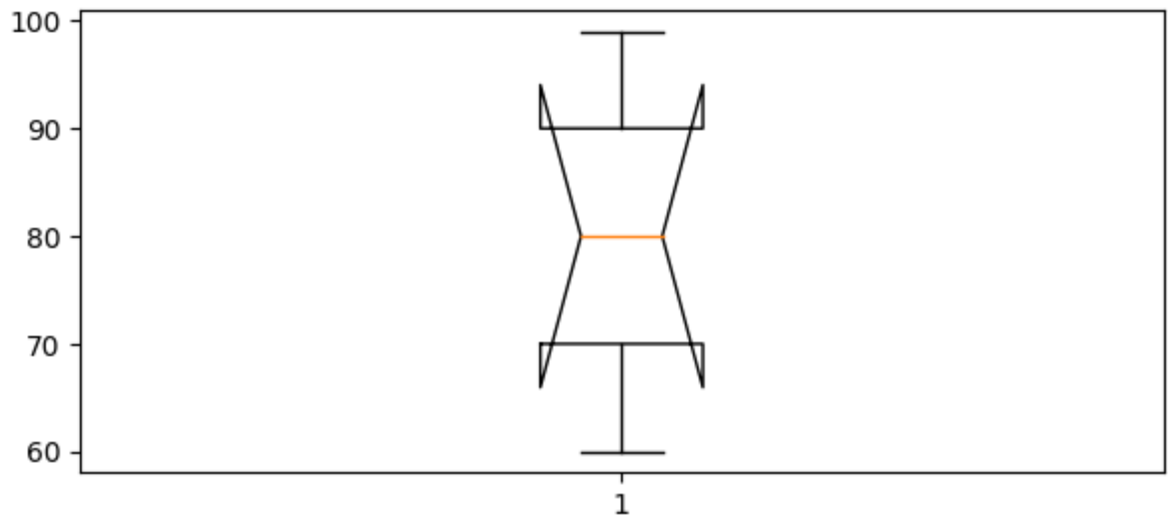

In [2]:
```python
plt.figure(figsize=(7,3))
x =[60,75,80,90,99,0]
plt.boxplot(x, vert=False, widths=0.4, labels=['Students Marks'], patch_artist
plt.show()
```

In [3]:
```python
plt.figure(figsize=(7,3))
x =[60,70,80,90,99]
plt.boxplot(x, notch =True)
plt.show()
```


In [4]:
```python
import numpy as np
```

In [5]:
```python
df = np.random.randint(40,70,50)
df
```

Out[5]: array([44, 66, 49, 59, 49, 59, 42, 46, 55, 64, 56, 62, 66, 63, 42, 47, 47,
       64, 61, 42, 40, 67, 46, 46, 55, 42, 61, 51, 66, 46, 67, 53, 63, 43,
       66, 62, 41, 44, 68, 54, 63, 69, 45, 43, 40, 58, 46, 53, 68, 42])

In [6]:
```python
# Outlier
df1= [64, 66, 69, 64, 150, 64, 69, 44, 50, 58, 50, 69, 60, 56, 66, 61, 65,
      52, 48, 68, 57, 63, 50, 45, 44, 60, 69, 47, 51, 64, 55, 66, 54, 42,
      62, 50, 50, 62, 64, 67, 41, 48, 49,200,68, 59, 51, 48, 69, 62, 55]
plt.figure(figsize=(5,3))
plt.boxplot(df1, vert=False)
plt.show()
```
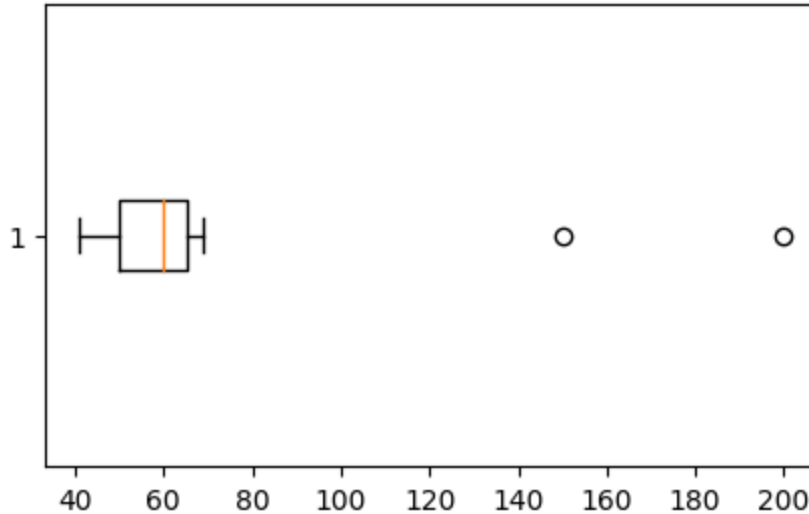

In [7]:
```python
df1= [64, 66, 69, 64, 50, 64, 69, 44, 50, 58, 50, 69, 60, 56, 66, 61, 65,
      52, 48, 68, 57, 63, 50, 45, 44, 60, 69, 47, 51, 64, 55, 66, 54, 42,
      62, 50, 50, 62, 64, 67, 41, 48, 49,68, 59, 51, 48, 69, 62, 55]
plt.figure(figsize=(5,3))


plt.boxplot(df1, vert=False, boxprops=dict(color='g'), capprops=dict(color='red
plt.show()
```
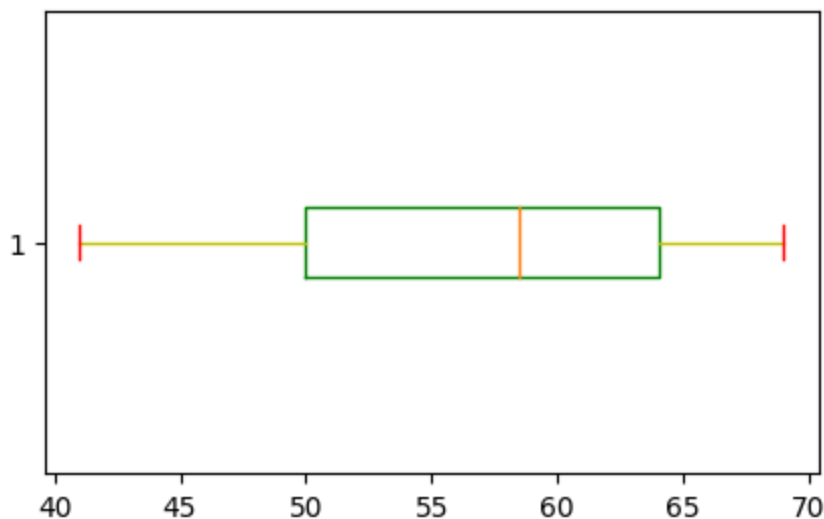
In [8]: `# Seaborn`

`import seaborn as sns`

In [9]:
```
df = sns.load_dataset('titanic')
df
```

Out[9]:

	survived	pclass	sex	age	sibsp	parch	fare	embarked	class	who	adult_mal
0	0	3	male	22.0	1	0	7.2500	S	Third	man	Tru
1	1	1	female	38.0	1	0	71.2833	C	First	woman	Fals
2	1	3	female	26.0	0	0	7.9250	S	Third	woman	Fals
3	1	1	female	35.0	1	0	53.1000	S	First	woman	Fals
4	0	3	male	35.0	0	0	8.0500	S	Third	man	Tru
...	...	...	...	...	...	...	...	...	...	...	.
886	0	2	male	27.0	0	0	13.0000	S	Second	man	Tru
887	1	1	female	19.0	0	0	30.0000	S	First	woman	Fals
888	0	3	female	NaN	1	2	23.4500	S	Third	woman	Fals
889	1	1	male	26.0	0	0	30.0000	C	First	man	Tru
890	0	3	male	32.0	0	0	7.7500	Q	Third	man	Tru

891 rows × 15 columns

In [10]:
```python
df1 = sns.load_dataset('iris')
df1
```

Out[10]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa
...	...	...	...	...	...
145	6.7	3.0	5.2	2.3	virginica
146	6.3	2.5	5.0	1.9	virginica
147	6.5	3.0	5.2	2.0	virginica
148	6.2	3.4	5.4	2.3	virginica
149	5.9	3.0	5.1	1.8	virginica

150 rows × 5 columns

In [11]:
```python
df2 =sns.load_dataset('healthexp')
df2
```

Out[11]:

	Year	Country	Spending_USD	Life_Expectancy
0	1970	Germany	252.311	70.6
1	1970	France	192.143	72.2
2	1970	Great Britain	123.993	71.9
3	1970	Japan	150.437	72.0
4	1970	USA	326.961	70.9
...	...	...	...	...
269	2020	Germany	6938.983	81.1
270	2020	France	5468.418	82.3
271	2020	Great Britain	5018.700	80.4
272	2020	Japan	4665.641	84.7
273	2020	USA	11859.179	77.0

274 rows × 4 columns

In [12]:
```python
df1= [64, 66, 69, 64, 50, 64, 69, 44, 50, 58, 50, 69, 60, 56, 66, 61, 65,
       52, 48, 68, 57, 63, 50, 45, 44, 60, 69, 47, 51, 64, 55, 66, 54, 42,
       62, 50, 50, 62, 64, 67, 41, 48, 49,68, 59, 51, 48, 69, 62, 55]
df2= [64, 66, 69, 64, 50, 64, 52, 44]
df3= [64, 66, 69, 64, 50,  69, 44,]


x = [df1,df2,df3]
plt.figure(figsize=(5,3))
plt.boxplot(x, labels=['DDN','All','KNP'])
plt.show()
```
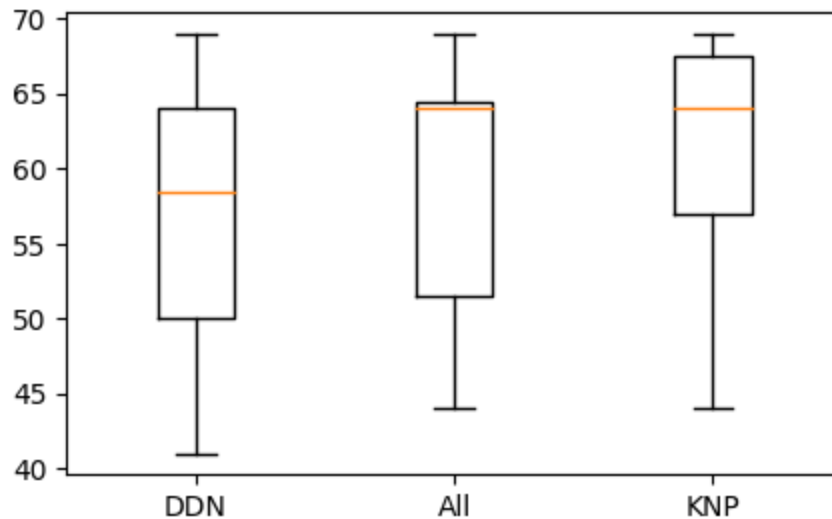

In [13]:
```python
x1 =[50,30,40,20,56,25,65]
x2 =[50,20,80,20,55,45,65]
plt.figure(figsize=(4,2))
plt.boxplot(x1,x2, vert=False)
plt.show()
```