

```
In [1]: #import the libraries
import pandas as pd
import scipy.stats as stats
import scipy
```

```
In [2]: data = pd.read_csv('LabTat.csv')
data.head(5)
```

```
Out[2]:
```

	Laboratory 1	Laboratory 2	Laboratory 3	Laboratory 4
0	185.35	165.53	176.70	166.13
1	170.49	185.91	198.45	160.79
2	192.77	194.92	201.23	185.18
3	177.33	183.00	199.61	176.42
4	193.41	169.57	204.63	152.60

```
In [3]: #Renamed columns
Lab = data.rename(columns = {'Laboratory 1': 'Lab1', 'Laboratory 2': 'Lab2', 'Laboratory 3': 'Lab3', 'Laboratory 4': 'Lab4'})
Lab.head(5)
```

```
Out[3]:
```

	Lab1	Lab2	Lab3	Lab4
0	185.35	165.53	176.70	166.13
1	170.49	185.91	198.45	160.79
2	192.77	194.92	201.23	185.18
3	177.33	183.00	199.61	176.42
4	193.41	169.57	204.63	152.60

```
In [4]: #sliced the dataset
Lab1 = stats.f_oneway(Lab.iloc[:,0], Lab.iloc[:,1], Lab.iloc[:,2], Lab.iloc[:,3])
p_value = Lab1[1]
p_value
```

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Out[4]: 2.1156708949992414e-57
```

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In [5]: if p_value < 0.05:
print("reject null hypothesis")
else:
print("accept null hypothesis")
```

reject null hypothesis

Since the p- value < 0.05, there is no significant difference in average LabTAT