[1]:
```
import pandas  as pd
from scipy import stats
```

[3]:
```
medication = [9,10,12,13,15]
exercise = [0,2,3,6,8]
diet = [4,5,8,9,12]
```

[4]:
```
f_stat,p_val=stats.f_oneway(medication, exercise, diet)
```

[5]:
```
f_stat
```

[5]:
```
9.167938931297712
```

[7]:
```
p_val
```

[7]:
```
0.0038313168847996164
```

```
# p_val<>0.05 give diff only two groups in a case of which group is
#              exist not give that's why we need  paired compresion.
```

[10]:
```
p1 = stats.ttest_ind(medication, exercise).pvalue
p2 = stats.ttest_ind(medication, diet).pvalue
p3 = stats.ttest_ind(exercise, diet).pvalue
```

[13]:
```
p1
```

[13]:
```
0.0020390437812708626
```

[14]:
```
p2
```

[14]:
```
0.046836629550836055
```

[15]:
```
p3
```

[15]:
```
0.0974006409682124
```

[23]:
```
alpha = 0.05
#1 Medication vs Exercise
if p1 < alpha:
    print("p1=Medication vs Exercise: Significant difference exist")
else:
    print("Medication vs Exercise: Not significant exist ")
```

```
p1=Medication vs Exercise: Significant difference exist
```

[21]:
```
#2Medication vs Diet
if p2 < alpha:
    print("p2=Medication vs Diet: Significant difference exist ")
else:
    print("Medication vs Diet: Not significant exist ")
```

```
p2=Medication vs Diet: Significant difference exist
```

[20]:
```
# 3 Exercise vs Diet
if p3 < alpha:
    print("Exercise vs Diet: Significant difference exist ")
else:
    print("p3=Exercise vs Diet: Not significant  exist ")
```

```
p3=Exercise vs Diet: Not significant  exist
```