In [1]:
```
# Aim : To perform hypothesis testing using T test.
```

In [2]:
```
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# class : 3rd year
# Section : A
# Roll No. : 11
```

T Test

T Test A t-test is a type of inferential statistic which is used to determine if there is a significant difference between the means of two groups which may be related in certain features

In [3]:
```
ages=[10,20,35,50,28,40,55,18,16,55,30,25,43,18,30,28,14,24,16,17,32,35,26,27,65,18,43,2
```

In [4]:
```
len(ages)
```

Out[4]:
```
32
```

In [5]:
```
import numpy as np
ages_mean=np.mean(ages)
print(ages_mean)
```

```
30.34375
```

In [6]:
```
## Lets take sample

sample_size=10
age_sample=np.random.choice(ages,sample_size)
```

In [7]:
```
age_sample
```

Out[7]:
```
array([43, 27, 43, 17, 20, 43, 23, 28, 17, 70])
```

In [8]:
```
from scipy.stats import ttest_1samp
```

In [9]:
```
ttest,p_value=ttest_1samp(age_sample,30)
```

In [10]:
```
print(p_value)
```

```
0.5716935613723824
```

In [11]:
```
if p_value < 0.05:    # alpha value is 0.05 or 5%
    print(" we are rejecting null hypothesis")
else:
    print("we are accepting null hypothesis")
```

```
we are accepting null hypothesis
```

In [ ]:
```

```