In [1]:

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
import scipy.stats as stats
from scipy.stats import ttest_1samp
from statsmodels.stats.power import tt_ind_solve_power
```

T test A t test is inferntial statistics which is used to determine if there is a significant difference betweenthe means of two groups which may be related in certain features

T-test has 2 types: 1) One sampled t test 2) Two sampled t test

t= (sample mean - population mean) / standard error

In [2]:

```
ages=[10,20,35,50,28,40,55,18,16,55,30,25,43,18,30,28,14,24,16,17,32,35,26,27,65,18,43,23,21,20,19,70]
```

In [3]:

```
ages_mean=np.mean(ages)
print(ages_mean)
```

30.34375

In [4]:

```
#Lets take sample
sample_size=10
age_sample=np.random.choice(ages,sample_size)
age_sample
```

Out[4]:

array([30, 19, 23, 28, 55, 55, 14, 20, 50, 40])

In [5]:

```
from scipy.stats import ttest_1samp
```

In [6]:

```
ttest,p_value=ttest_1samp(age_sample,30)
```

In [7]:

```
print(p_value)
```

0.5056080692408089

In [8]:

```
if p_value < 0.05:
    print("We are rejecting null hypothesis")
else:
    print("We are accepting null hypothesis")
```

We are accepting null hypothesis

In [ ]:

```

```