Z TEST

```
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Class - 3rd year
Section - CSE
```

In [1]:
```
ages=[10,20,35,50,28,40,55,18,16,55,30,25,43,18,30,28,14,24,16,17,32,35,26,
```

In [2]:
```
len(ages)
```

Out[2]:
```
32
```

In [4]:
```
import numpy as np
ages_mean = np.mean(ages)
print(ages_mean)
```

```
30.34375
```

In [5]:
```
## Lets take sample

sample_size = 31
age_sample = np.random.choice(ages, sample_size)
```

In [6]:
```
age_sample
```

Out[6]:
```
array([65, 40, 10, 55, 23, 21, 23, 30, 18, 65, 21, 25, 26, 50, 28, 40, 1
8,
       55, 26, 25, 21, 28, 43, 21, 43, 18, 26, 19, 26, 19, 27])
```

In [8]:
```
from statsmodels.stats import weightstats as stests


ztest, p_value = stests.ztest(age_sample)
print("ztest", ztest)
print("p-value", p_value)
```

```
ztest 11.888376184324565
p-value 1.3602545785039047e-32
```

In [9]:
```
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 [ ]: