A Government company claims that an average light bulb lasts 270 days. A researcher randomly selects 18 bulbs for testing. The sampled bulbs last an average of 260 days, with a standard deviation of 90 days. If the CEO's claim were true, what is the probability that 18 randomly selected bulbs would have an average life of no more than 260 days

Hint:

rcode ---> pt(tscore,df)

df ---> degrees of freedom

In [1]:

```
from scipy import stats
from scipy.stats import norm
```

In [3]:

```
population_mean =270
sample_mean =260
sample = 18
std = 90
```

In [4]:

```
# find t score x=260
t_score = (260-270)/(90/18**0.5)
t_score
```

Out[4]:

```
-0.4714045207910317
```

In [14]:

```
x=stats.t.cdf(-0.4714,df=17)  # df =n-1 =18-1= 17
print("The Probabilit of 18 bulb is",x)
```

```
The Probabilit of 18 bulb is 0.32167411684460556
```

In [ ]:

```

```