```
for (k = 1; k<= n; k *= 2)
{
    print(……);
}
```

| Iterations | Value of k |
|---|---|
| 0 | $1 = 2^0$ |
| 1 | $2 = 2^1$ |
| 2 | $4 = 2^2$ |
| 3 | $8 = 2^3$ |
| … | … |
| i = assuming the loop runs up to maximum $i$ iterations before exceeding $n$ | $2^i$ = the maximum value $k$ can attain (*or the atomic runs*) for this $i^{th}$ iteration |

Now –

i. From the ***code***, we can see k can be at maximum **n (**$k<=n$**)**

ii. From the ***table***, we can see k can be at maximum $2^i$

Since, (i) and (ii) are inferring the same statement, we can conclude that $n = 2^i$

And the rest, $(n) = \left(2^i\right) => \ i = n$