Q2. Write a program for valid perfect square.

I/P: 4 | I/P: 1
O/P: yes | O/P: yes.
I/P: 7
O/P: NO.

```
code: bool validSquare(long long n){
        if (n==1) return 1;
        int low = 0;
        int high = n-1;
        while (low <= high){
            int mid = low + (high-low)/2;
            long long square = (long long) mid * mid;
            if (ans == n){
                return 1;
            }
            else if (ans < n){
                low = mid+1;
            }
            else{
                high = mid-1;
            }
        return 0;
    }
```

Dry run: n = 16

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

↑ low, ↑ mid, ↑ high

Iteration-1
while(0 <= high) True
mid = (0+15)/2 = 7
sq = mid*mid; 7*7 = 49
if(49 == 16) False
else(49 < 16) False
else(49 > 16)
high = mid-1
high = 7-1 = 6

Iteration 2:

1	2	3	4	5	6	7
0	1	2	3	4	5	6

↑ low, ↑ high

while(0 <= 6) True
mid = (0+6)/2 = 3
sq = 3*3 = 9
if(9 == 16) False
else if(9 < 16) True
low = mid+1
low = 3+1 = 4

Iteration = 3.

1	2	3	4	5
0	1	2	3	4

↑ low, ↑ high

5	6	7
4	5	6

↑ low, ↑ high

while(4 <= 6) True
mid = (4+6)/2 = 5
sq = 5*5 = 25
if(25 == 16) False
else if(25 < 16) F
else if(25 > 16) T
high = mid-1
= 5-1
= 4

Iteration 4:

5
4

↑ low, ↑ high

while(4 <= 4) True
mid = (4+4)/2 = 4
sq = 4*4 = 16
if(16 == 16)
return 1;

final output: True