Example 2

num = 16
Output = 4

(Non-perfect square)

floor value

Square root of a given number

num = 26
Output = 5

0 to num

Binary Search

Square root

num = 16

$\frac{0+7}{2} = 3$

$25 > 16$

$64 > 16$

$mid = \frac{0+16}{2} = 8$

$9 < 16$

$\frac{4+7}{2} = 5$

val = mid * mid = 64

```
if (val > num) {
    high = mid - 1
}
```

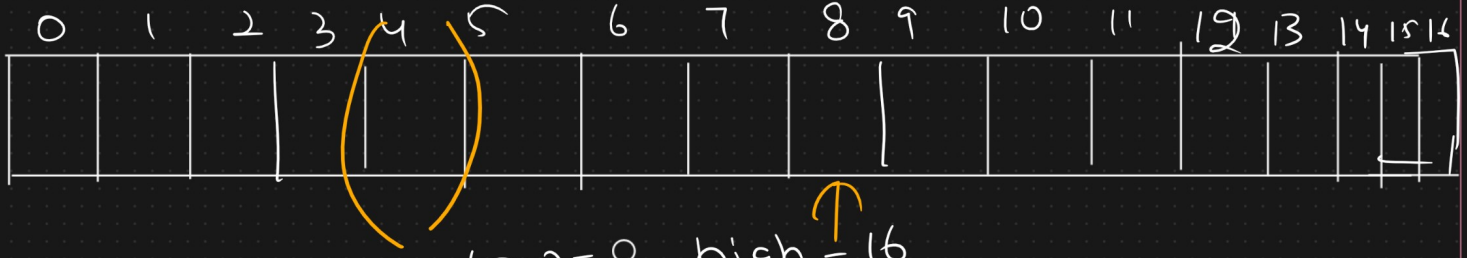
Non Perfect Square num

```
if (val < num) {
    result = mid;
    low = mid + 1;
}
```

```
if (val == num){
    return mid
}
```

Perfect Square num

num = 16



low = 0, high = 16

mid* 64 > 16 mid = 8

mid

num = 16

low = 0, high = 7

mid = 3

9 < 16

low = 4, high = 7

mid = 5

25 > 16

low = 4, high = 4

mid = 4

16 = 16

↳ mid = 4

square root of 16