SQUARE ROOT USING BINARY SEARCH

☆ In this problem, we are supposed to return the square root of a number but by using binary search.

Simplest solution is to use math library in any programming language. Linear search is also possible with time complexity is $O(\sqrt{N})$

Binary search can be applied on low = 1, high = N and our condition to eliminate a half will be if mid x mid > N or not

Pseudocode :

```
sqRootBS(N) {
    low = 1, ans = -1
    high = N
    while(low <= high) {
        mid = (low + high) / 2
        if(mid * mid <= N) {
            ans = mid
            low = mid + 1
        } else {
            high = mid - 1
        }
    }
```

return ans
}