

Problem Statement: Write a definition of a method `leastFactor` that has one `int` parameter, `n`. If $n > 1$, the method should return the value of the smallest prime factor of `n`; otherwise, it should return the value zero.

Design Using Pseudocode

```
get an integer value
determine the lowest factor
return the lowest factor
```

What is a factor?

- a number that divides evenly into the number

What are possible factors?

- numbers from 2 to the given value
- don't bother with 1 (since it divides into all integers an infinite number of times)

```
get an integer value
determine the lowest factor
    check numbers from 2 to the given value
    check if each number divides evenly into the number
return the lowest factor
```

How can we tell if a number divides evenly into another number?

- the answer is an integer
- the division produces no decimal
- the division produces no remainder
 - use the modulo operator

```
get an integer value
determine the lowest factor
    check numbers from 2 to the given value
    check our given value MOD 2, 3, 4, etc...
    stop checking when we get no remainder
return the lowest factor
```

Using pseudocode that is more like regular code:

```
get number from user or calling method
set factor to 2 (initial value)
while (number mod factor) is not zero
    increase factor by 1
end while
return factor
```

Now implement and test this method using the programming language of your choice.