

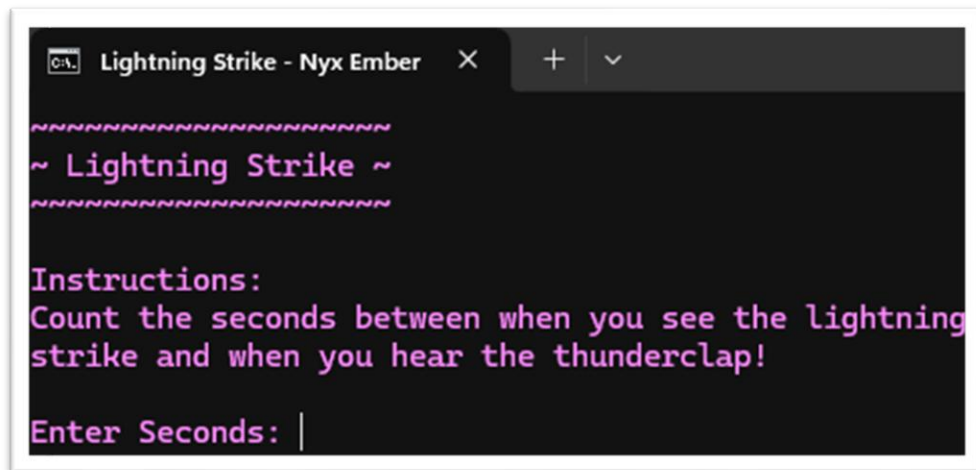
Object Oriented Programming

ICE 3

Nyx Ember Homer

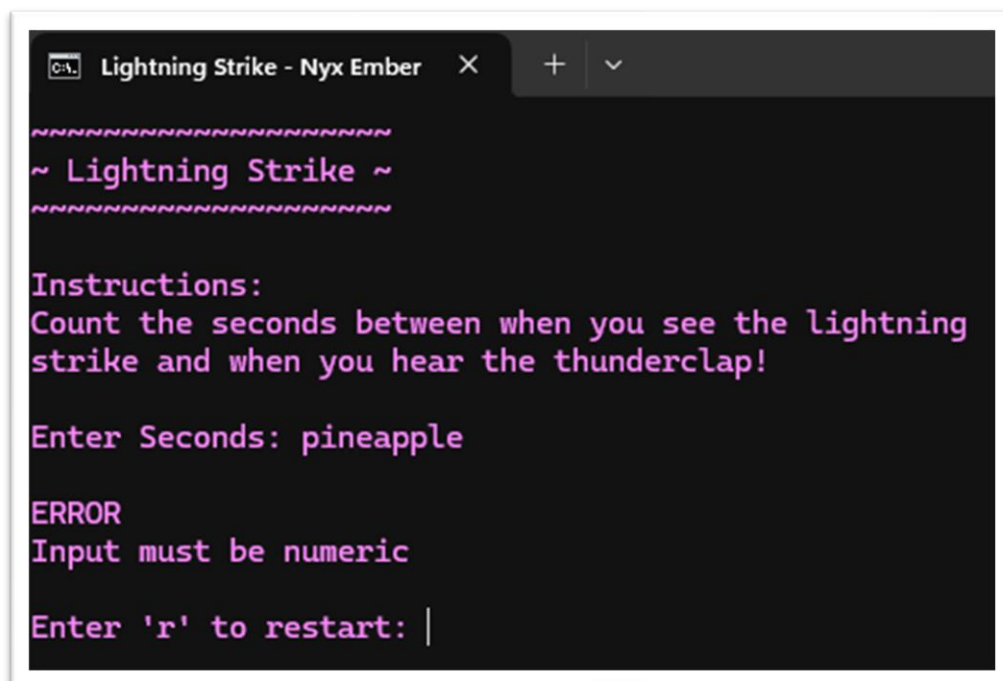
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SCREENSHOTS



```
Lightning Strike - Nyx Ember X + v
~ Lightning Strike ~
Instructions:
Count the seconds between when you see the lightning
strike and when you hear the thunderclap!
Enter Seconds: |
```

Initial Screen



```
Lightning Strike - Nyx Ember X + v
~ Lightning Strike ~
Instructions:
Count the seconds between when you see the lightning
strike and when you hear the thunderclap!
Enter Seconds: pineapple
ERROR
Input must be numeric
Enter 'r' to restart: |
```

Error – Input not numeric

```
Lightning Strike - Nyx Ember X + v
~ Lightning Strike ~
~ Lightning Strike ~

Instructions:
Count the seconds between when you see the lightning
strike and when you hear the thunderclap!

Enter Seconds: -5

ERROR
Input must be at least 0
Enter 'r' to restart: |
```

Error – Input is negative number

```
Lightning Strike - Nyx Ember X + v
~ Lightning Strike ~
~ Lightning Strike ~

The lightning struck 3.43 km / 2.06 miles away from you!
Enter 'r' to restart: |
```

Valid whole number

```
Lightning Strike - Nyx Ember X + v
~ Lightning Strike ~
~ Lightning Strike ~

The lightning struck 0.51 km / 0.31 miles away from you!
Enter 'r' to restart: |
```

Valid decimal

QUESTIONS

QUESTION 1 - What is the difference between a constant and a variable?

A constant can not be changed during runtime, while a variable can.

QUESTION 2 - Why is it important to use constants in your code?

If a number will not change, such as the speed of sound in this instance, it is best to use a constant over a variable to ensure that number is never changed during the code's runtime. It also makes the code easier to read, as constants are typically NAMED_IN_ALL_CAPS.

QUESTION 3 - In Java, what keyword (command) is needed to declare a constant?

final

QUESTION 4 - What is the naming case convention difference between naming variables and naming constants?

Variables are named using *camelCase*

Constants are named using *SCREAMING_SNAKE_CASE*

QUESTION 5 - In Java, what happens if you try to modify the value stored in a constant?

You will get a compiler error

QUESTION 6 - What is the difference between a while loop and a do while loop?

A while loop checks for a condition before the loop.

A do while loop runs through the loop once, and *then* checks for a condition.

This means a do while loop will always run at least once.