Michael Wells

Assignment 9 Design

07/28/19

**Null Pointer Exception**

The null pointer exception gets thrown when you attempt to perform some operation on a null value. In my assignment I demonstrate by create a string variable called value and define it as null. When I try to use the toString method. This should work as value is already a string, but an error is thrown because it is null. I catch this error and return an error message

**Array Index Out Of Bounds Exception**

The array index out of bounds exception is thrown when you try to access a value in an array that does not exist. To demonstrate I created an 1D int array called value, containing 4 integers. I try to loop through the array and output each array value 5 times. On the 5th time an exception is thrown because there is not 5 integers in the array. I catch this exception and return an error message.

**Class Cast Exception**

The class cast exception is thrown when you attempt to cast invalid primitive types. To demonstrate I created an Integer object, then try to cast this object to a string. I then caught the exception and returned an error message.

**Illegal Argument Exception**

The illegal argument exception is thrown to show when a method is passed an argument that is invalid. In my research I could find any of these in default methods so I decided to make my own method, percent, which takes in an integer and will throw the Illegal argument exception if the integer is greater than 100. In my main method I then call the percent method using 110, catch the exception I created and return an error message.