Impostor Syndrome with Coding Questions

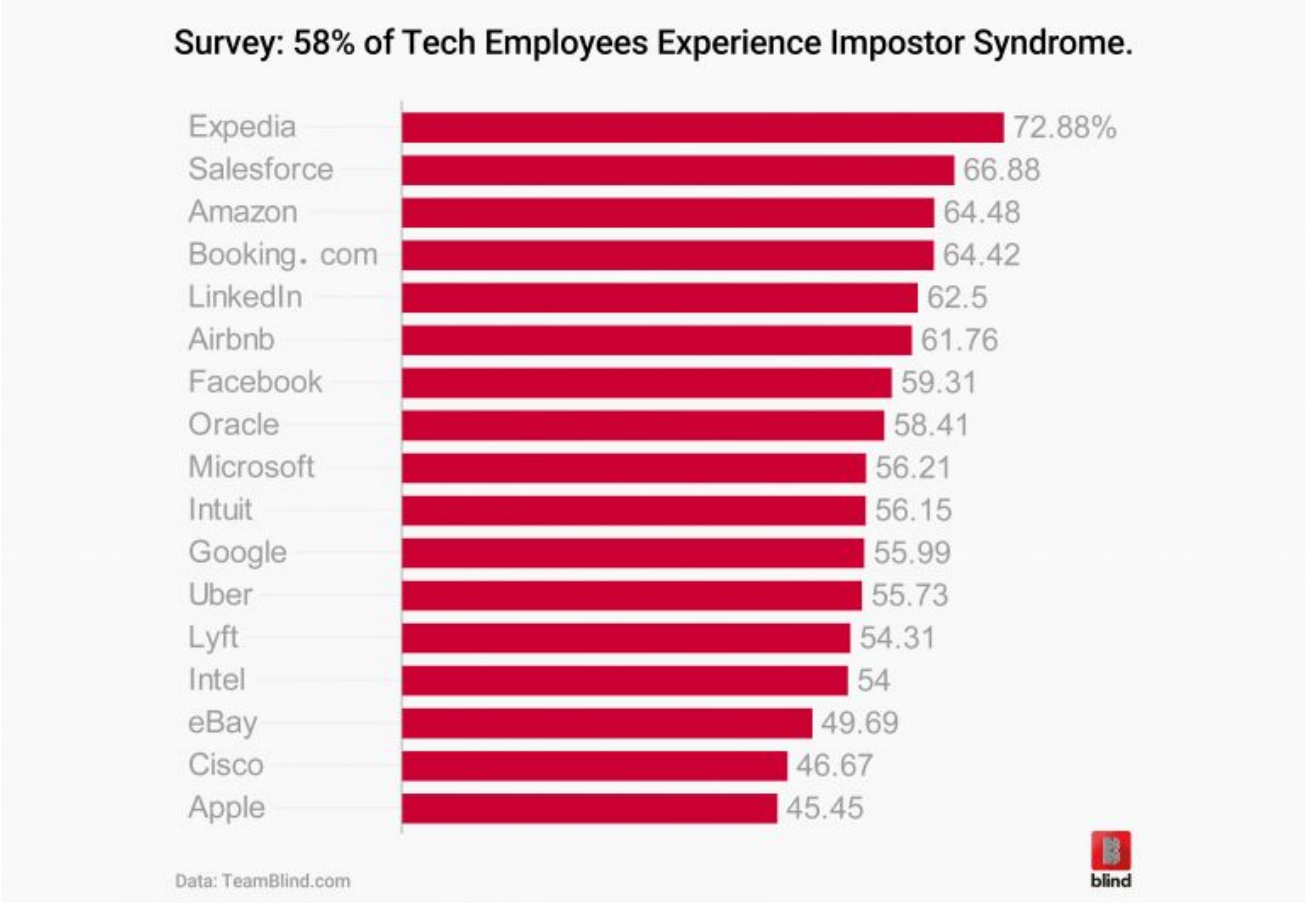
By Abby Hudson
CSC 295

What is Impostor Syndrome?

- Loosely defined as a feeling of inadequacy or incompetence despite there being evidence of your skills and success
- It affects everyone in a variety of ways
- It usually feels as though you don't deserve to be where you are or that your peers are doing much better than you

How do you get Impostor Syndrome from Coding?

- You read what you need to program for an assignment and have no clue how to even approach it
- A peer wants you to look over their code to find where their mistake is, but you're unable to figure it out
- Your peers seem to understand the assignment better than you do



https://www.teamblind.com/blog/index.php/2018/09/05/58-percent-of-tech-workers-feel-like-impostors/

Scrabble!


SCRABBLE
CLASSIC
WORD GAME
SCRABBLE
PLAYERS
OFFICIAL SCORE SHEET

Scrabble Implementation

- Write a small program that asks the user to input a word and calculate the amount of points you would get for that word in Scrabble.
- No use of the board, so no “triple letter” or anything.
- Just use these values:

Example Implementation

```
                Welcome to the Scrabble Calculator!

Here, you can enter a word and determine how many points a word would
                  score you in a game of Scrabble!

How many letters are in your word? 3

What is the word? CAT

It looks like the word CAT would give a score of 5.
```

Question #1 Without Code

- “I’m getting some pretty weird results from my code. Most of my values are way too large and I can’t figure out why.”

```
It looks like the word CAT would give a score of 30.

It looks like the word YOYO would give a score of 28.

It looks like the word AMERICA would give a score of 70.

It looks like the word FROZEN would give a score of 60.
```

Question #1 With Code

```
public static int getValue(char character) {
    int value = 0;
    if ( character == 'A' ) {
        value = 1;
    } if ( character == 'B' ) {
        value = 3;
    } if ( character == 'C' ) {
        value = 3;
    } if ( character == 'D' ) {
        value = 2;
    } if ( character == 'E' ) {
        value = 1;
    } if ( character == 'F' ) {
        value = 4;
    } if ( character == 'G' ) {
        value = 2;
    } if ( character == 'H' ) {
        value = 4;
    } if ( character == 'I' ) {
        value = 1;
    } if ( character == 'J' ) {
        value = 8;
    } if ( character == 'K' ) {
        value = 5;
    } if ( character == 'L' ) {
        value = 1;
    } if ( character == 'M' ) {
        value = 3;
    } if ( character == 'N' ) {
        value = 1;
    } if ( character == 'O' ) {
        value = 1;
    } if ( character == 'P' ) {
        value = 3;
    } if ( character == 'Q' ) {
        value = 10;
    } if ( character == 'S' ) {
        value = 1;
    } if ( character == 'T' ) {
        value = 1;
    } if ( character == 'U' ) {
        value = 1;
    } if ( character == 'V' ) {
        value = 4;
    } if ( character == 'W' ) {
        value = 4;
    } if ( character == 'X' ) {
        value = 8;
    } if ( character == 'Y' ) {
        value = 4;
    } else {
        value = 10;
    }
    return value;
}
```

```
It looks like the word CAT would give a score of 30.

It looks like the word YOYO would give a score of 28.

It looks like the word AMERICA would give a score of 70.

It looks like the word FROZEN would give a score of 60.
```

- Now that you have the code, can you figure out what's wrong?

Question #1 With Code

```
public static int getValue(char character) {
    int value = 0;
    if ( character == 'A' ) {
        value = 1;
    } if ( character == 'B' ) {
        value = 3;
    } if ( character == 'C' ) {
        value = 3;
    } if ( character == 'D' ) {
        value = 2;
    } if ( character == 'E' ) {
        value = 1;
    } if ( character == 'F' ) {
        value = 4;
    } if ( character == 'G' ) {
        value = 2;
    } if ( character == 'H' ) {
        value = 4;
    } if ( character == 'I' ) {
        value = 1;
    } if ( character == 'J' ) {
        value = 8;
    } if ( character == 'K' ) {
        value = 5;
    } if ( character == 'L' ) {
        value = 1;
    } if ( character == 'M' ) {
        value = 3;
    } if ( character == 'N' ) {
        value = 1;
    } if ( character == 'O' ) {
        value = 1;
    } if ( character == 'P' ) {
        value = 3;
    } if ( character == 'Q' ) {
        value = 10;
    } if ( character == 'S' ) {
        value = 1;
    } if ( character == 'T' ) {
        value = 1;
    } if ( character == 'U' ) {
        value = 1;
    } if ( character == 'V' ) {
        value = 4;
    } if ( character == 'W' ) {
        value = 4;
    } if ( character == 'X' ) {
        value = 8;
    } if ( character == 'Y' ) {
        value = 4;
    } else {
        value = 10;
    }
    return value;
}
```

```
It looks like the word CAT would give a score of 30.

It looks like the word YOYO would give a score of 28.

It looks like the word AMERICA would give a score of 70.

It looks like the word FROZEN would give a score of 60.
```

- If the character is not a Y, then this else statement makes it so that the value is always set to 10.

Question #2

- “No matter what I try to input, I always get this error. I have no clue what it means.”

```
                Welcome to the Scrabble Calculator!

Here, you can enter a word and determine how many points a word would
                  score you in a game of Scrabble!

How many letters are in your word? 3

What is the word? CAT
Exception in thread "main" java.lang.StringIndexOutOfBoundsException: String index out of range: 3
        at java.base/java.lang.StringLatin1.charAt(StringLatin1.java:47)
        at java.base/java.lang.String.charAt(String.java:693)
        at calculator.ScrabbleCalculator.main(ScrabbleCalculator.java:36)
```

Question #2

- Let’s say you have absolutely no idea what a StringIndexOutOfBoundsException is or means.

Question #2

- Let’s say you have absolutely no idea what a StringIndexOutOfBoundsException is or means.
    - This can definitely lead to feelings of being an impostor.

Question #2

- Let’s say you have absolutely no idea what a StringIndexOutOfBoundsException is or means.
  - This can definitely lead to feelings of being an impostor.
  - It’s perfectly okay!

Question #2

- Let’s say you have absolutely no idea what a StringIndexOutOfBoundsException is or means.
  - This can definitely lead to feelings of being an impostor.
  - It’s perfectly okay!
  - You can’t possibly be expected to know everything.

Question #2

- Let’s say you have absolutely no idea what a StringIndexOutOfBoundsException is or means.
  - This can definitely lead to feelings of being an impostor.
  - It’s perfectly okay!
  - You can’t possibly be expected to know everything.
  - What can we do here?

Question #2

- Let’s say you have absolutely no idea what a StringIndexOutOfBoundsException is or means.
  - This can definitely lead to feelings of being an impostor.
  - It’s perfectly okay!
  - You can’t possibly be expected to know everything.
  - What can we do here?
    - Ask another TA or your professor
    - Google the error message

Question #2

- Here's what searching the exception up said:

In this tutorial we will discuss about the `java.lang.StringIndexOutOfBoundsException` in Java. This exception is thrown by the methods of the `String` class, in order to indicate that an index is either **negative**, or **greater** than the size of the string itself.

https://examples.javacodegeeks.com/java-basics/exceptions/java-lang-stringindexoutofboundsexception-how-to-solve-stringindexoutofboundsexception/

Question #2

- Here's what searching the exception up said:

In this tutorial we will discuss about the `java.lang.StringIndexOutOfBoundsException` in Java. This exception is thrown by the methods of the `String` class, in order to indicate that an index is either **negative**, or **greater** than the size of the string itself.

https://examples.javacodegeeks.com/java-basics/exceptions/java-lang-stringindexoutofboundsexception-how-to-solve-stringindexoutofboundsexception/

- Great! So we're trying to access something in a string that doesn't exist.

Question #2

- Here's what searching the exception up said:

In this tutorial we will discuss about the `java.lang.StringIndexOutOfBoundsException` in Java. This exception is thrown by the methods of the `String` class, in order to indicate that an index is either **negative**, or **greater** than the size of the string itself.

https://examples.javacodegeeks.com/java-basics/exceptions/java-lang-stringindexoutofboundsexception-how-to-solve-stringindexoutofboundsexception/

- Great! So we're trying to access something in a string that doesn't exist.
- Let's look at where we're getting each character to put into the findValue method.

Question #2

```
System.out.print("\nHow many letters are in your word? ");

Scanner console = new Scanner(System.in);

int numberOfLetters = console.nextInt();

System.out.print("\nWhat is the word? ");

String word = console.next();

int totalSum = 0;

for (int i = 0; i <= numberOfLetters; i++) {
    char character = word.charAt(i);
    int eachLetterValue = calculateLetter(character);
    totalSum += eachLetterValue;
}
```

Question #2

```
System.out.print("\nHow many letters are in your word? ");

Scanner console = new Scanner(System.in);

int numberOfLetters = console.nextInt();

System.out.print("\nWhat is the word? ");

String word = console.next();

int totalSum = 0;

for (int i = 0; i <= numberOfLetters; i++) {
    char character = word.charAt(i);
    int eachLetterValue = calculateLetter(character);
    totalSum += eachLetterValue;
}
```

- Strings are put into memory like so:

Question #2

```
System.out.print("\nHow many letters are in your word? ");

Scanner console = new Scanner(System.in);

int numberOfLetters = console.nextInt();

System.out.print("\nWhat is the word? ");

String word = console.next();

int totalSum = 0;

for (int i = 0; i <= numberOfLetters; i++) {
    char character = word.charAt(i);
    int eachLetterValue = calculateLetter(character);
    totalSum += eachLetterValue;
}
```

- Strings are put into memory like so:

C	A	T
charAt(0)	**charAt(1)**	**charAt(2)**

Question #2

```
System.out.print("\nHow many letters are in your word? ");

Scanner console = new Scanner(System.in);

int numberOfLetters = console.nextInt();

System.out.print("\nWhat is the word? ");

String word = console.next();

int totalSum = 0;

for (int i = 0; i <= numberOfLetters; i++) {
    char character = word.charAt(i);
    int eachLetterValue = calculateLetter(character);
    totalSum += eachLetterValue;
}
```

- Strings are put into memory like so:

C	A	T
charAt(0)	**charAt(1)**	**charAt(2)**

- So if the size of the word CAT is 3, and the variable i is incrementing up to 3 in this loop, then what happens when we use word.charAt(i) when we reach 3?

Question #2

```
System.out.print("\nHow many letters are in your word? ");

Scanner console = new Scanner(System.in);

int numberOfLetters = console.nextInt();

System.out.print("\nWhat is the word? ");

String word = console.next();

int totalSum = 0;

for (int i = 0; i <= numberOfLetters; i++) {
    char character = word.charAt(i);
    int eachLetterValue = calculateLetter(character);
    totalSum += eachLetterValue;
}
```

- Strings are put into memory like so:

C	A	T
charAt(0)	**charAt(1)**	**charAt(2)**

- So if the size of the word CAT is 3, and the variable i is incrementing up to 3 in this loop, then what happens when we use word.charAt(i) when we reach 3?

- It must be the StringIndexOutOfBoundsException!

Question #3

- “No matter what I do, I cannot get my implementation to work. I swear I’m checking everything like I’m supposed to but the sum always equals 0 no matter what.”

```
                Welcome to the Scrabble Calculator!

Here, you can enter a word and determine how many points a word would
                  score you in a game of Scrabble!

How many letters are in your word? 3

What is the word? CAT

It looks like the word CAT would give a score of 0.
```

Question #3

```
public static int findValue(char character) {
    ArrayList<String> value1 = new ArrayList<>(Arrays.asList("A", "E", "I", "L", "N", "O", "R", "S", "T", "U"));
    ArrayList<String> value2 = new ArrayList<>(Arrays.asList("D", "G"));
    ArrayList<String> value3 = new ArrayList<>(Arrays.asList("B", "C", "M", "P"));
    ArrayList<String> value4 = new ArrayList<>(Arrays.asList("F", "H", "V", "W", "Y"));
    ArrayList<String> value5 = new ArrayList<>(Arrays.asList("K"));
    ArrayList<String> value8 = new ArrayList<>(Arrays.asList("J", "X"));
    ArrayList<String> value10 = new ArrayList<>(Arrays.asList("Q", "Z"));

    if (value1.contains(character)) {
        return 1;
    } if (value2.contains(character)) {
        return 2;
    } if (value3.contains(character)) {
        return 3;
    } if (value4.contains(character)) {
        return 4;
    } if (value5.contains(character)) {
        return 5;
    } if (value8.contains(character)) {
        return 8;
    } if (value10.contains(character)) {
        return 10;
    }
    return 0;
```

Question #3

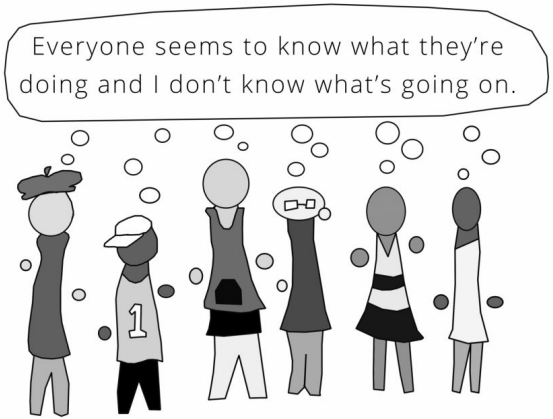
```
public static int findValue(char character) {
    ArrayList<String> value1 = new ArrayList<>(Arrays.asList("A", "E", "I", "L", "N", "O", "R", "S", "T", "U"));
    ArrayList<String> value2 = new ArrayList<>(Arrays.asList("D", "G"));
    ArrayList<String> value3 = new ArrayList<>(Arrays.asList("B", "C", "M", "P"));
    ArrayList<String> value4 = new ArrayList<>(Arrays.asList("F", "H", "V", "W", "Y"));
    ArrayList<String> value5 = new ArrayList<>(Arrays.asList("K"));
    ArrayList<String> value8 = new ArrayList<>(Arrays.asList("J", "X"));
    ArrayList<String> value10 = new ArrayList<>(Arrays.asList("Q", "Z"));

    if (value1.contains(character)) {
        return 1;
    } if (value2.contains(character)) {
        return 2;
    } if (value3.contains(character)) {
        return 3;
    } if (value4.contains(character)) {
        return 4;
    } if (value5.contains(character)) {
        return 5;
    } if (value8.contains(character)) {
        return 8;
    } if (value10.contains(character)) {
        return 10;
    }
    return 0;
```

- Well, it looks like all the values match up just fine…
- Creating the ArrayLists like this is a little weird, but it's completely valid and works.
- So… now what?

Question #3

- I had absolutely no clue what is wrong with this code.
- It took me about five hours to figure out what I had done wrong
- Out of curiosity, I asked another TA to see if they could determine what was wrong, and they figured it out in less than 5 minutes
- This gave me serious feelings of impostor syndrome.



Dealing with Impostor Syndrome

- As previously mentioned, **this is a normal feeling and it is okay to feel like this.**
- You can’t be expected to look at someone’s code and immediately know what’s going wrong with it.
- We are all students ourselves, and we are also still learning.
- You got hired for a reason!