

```
Enter an expression: (a-(b*c))
Pair: 3 7
Exception in thread "main" java.lang.IndexOutOfBoundsException: Index -1 out of bounds for length 2
    at java.base/jdk.internal.util.Preconditions.outOfBounds(Preconditions.java:100)
    at java.base/jdk.internal.util.Preconditions.outOfBoundsCheckIndex(Preconditions.java:106)
    at java.base/jdk.internal.util.Preconditions.checkIndex(Preconditions.java:302)
    at java.base/java.util.Objects.checkIndex(Objects.java:365)
    at java.base/java.util.ArrayList.get(ArrayList.java:428)
    at Mastery.ParenChecker.stack.pop(stack.java:23)
```

I am getting an outofBounds exception in the main method after the first set of parenthesis were found.

```
public int pop() {
    top -= 1;
    return(data.get(top));
}
```

Error was with the pop operation in the stack class. Since the top value was decremented before returning it, having a parenthesis at index 0 meant i was trying to get the value of the element at index -1.

```
public int pop() {
    int item = data.get(top);
    top -= 1;
    return(item);
}
```

Fixed by storing the data item before decreasing the top index.

```
Enter an expression: (a-(b*c))  
Pair: 3 7  
Pair: 0 8
```

Same example shows the correct output.

```
Enter an expression: a-(b
```

No output when there is only an open parenthesis. The stack is not empty at the end of this program.

```
if(!(stacks.isEmpty()))  
{  
    System.out.println("Error. Unmatched \"(\" in your expression");  
}
```

Fixed by handling the case where the stack is not empty after the for loop terminates.

```
Enter an expression: a-(b  
Error. Unmatched "(" in your expression
```

Fixed output.