 

**Advanced Placement Computer Science**

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**Unit 5: Strings/Short Circuit Evaluation**

**Lesson: Short Circuit EvaluationFILLED OUT**

***Last Updated:*** *4/27/2017*

Lesson: Parameter Passing Mechanisms

*Last Updated: 100/11001/1100*

What is the problem with this loop?

int x=50;

while(100/x != (some target value) && x!=0)  
{

System.out.println(x);  
 x--;  
}

**The problem is that eventually x will become 0, and then 100/0 will be evaluated, which will throw an ArithmeticException since you cannot divide by 0.**

How is it fixed?

**By reversing the order of the tests in the logical &&  
int x=50;**

**while(x!=0 && 100/x != (some target value))  
{**

**System.out.println(x);  
 x--;  
}**

Summarize short circuit evaluation

**Short circuit evaluation guarantees that if a logical and encounters a false statement NONE of the expressions to the right will be evaluated**

**Likewise if a logical or encounters a true statement then NONE of the expressions to the right of the statement will be evaluated**

public class City {

public String name;

public int population;

}

City[] cityList = new Array[6]; //assuming the array is populated with the values below but that the 4th element’s name is null

|  |  |  |
| --- | --- | --- |
| **index** | **name** | **population** |
| 0 | “Cairo” | 7,933,236 |
| 1 | “Durban” | 3,368,631 |
| 2 | “Harare” | 1,607,022 |
| 3 | null | 0 |
| 4 | “Lagos” | 9,229,944 |
| 5 | “Khartoum” | 2,207,794 |

Write a for loop that searches the array for the string “Khartoum” Make sure the name is not null before doing a comparison on that name.

**System.out.println (“Searching for \”Khartoum\”…”);**

**for(inti =0; i < cityList.length; i++)  
{**

**if(cityList.name != null &&**

**cityList.name.equals(“Khartoum”)){**

**System.out.println(“Target found at “ + i);  
 break;  
}**