

Ackermann's Function

1 Ackermann's Function

Ackermann's Function is a complex mathematical function that is note worthy for several reasons. First, this function is *computable*. In other words, it will eventually return an answer for any given input, although it may take a very long time to do the computation. Second, it is not possible to write a program to compute this function using loops, although it is easily written using recursion.

2 The Rules

You are only allowed to use your textbook, CS204 class notes, CS204 files and the Java API. (This means no other internet, no other people, books, etc..). You may use any material you wrote or were given for a 204 assignment or lab.

3 The Assignment

Lookup the Ackermann function in a book or online. Do not lookup a program to compute it. The mathematical definition is available easily. Wikipedia is often a good place to start for this problem. Write a program to compute the function. Run several test cases to be sure it works. Note that larger numbers may take the next million years to give an answer so use small ones. You should be able to find Ackermann numbers in your Ackermann source so you can double check your answers. Make sure your main method calls your method several times with different (reasonably small) inputs.

4 Handing it in

Add it to your personal SVN projects folder.

<https://svn.eg.bucknell.edu/csci204/f09/username/projects/ackermannEC>

Don't forget to both team share **and** commit your files. Due by midnight on the last Monday of classes.