

# CS101 GDB Solution Spring 2022

**Due Date: 2 Sep 2022**

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## **Solution:**

I will use recursion design for the given scenario.

## **Reasons:**

1. Recursion in its simplest form involves a function which calls itself once, but this form of recursion can easily be replaced with a loop. Recursion becomes more powerful when the function calls itself multiple times, “branching out “quickly when executing , which let you solve complex problems with little code . Always remember to include a ‘base case ‘in your
2. Recursive function so it doesn’t cause a stack of overflow
3. Recursion is made for solving problems that can be broken down into smaller, repetitive problems .
4. It is especially good for working on things that have many possible branches and are too complex for an iterative approach.

5. One good example of this would be possible through a file system. You could start at the root folder, and then you could search through all the files and folders within that one. After that, you would enter each folder and search through each folder inside of that.
6. Recursion will work well for this type of structure because you can search multiple branching paths without having to include different checks and conditions for every many possibilities.

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