

CH9_101

EXERCISE

CUBE SEARCH

Exercise Files

Starter – "Kit/gpgt/server/scripts/gpgt/chapter9/exercise_101.cs"

Answers – "Kit/gpgt/server/scripts/gpgt/chapter9/answers/exercise_101_f.cs"

Exercise Mission

Chapter 9: "101_ContainerRaycasting: Cube Search"

Synopsis

In this exercise, we will test your ability to write the code needed to search for objects in a cubic area, using the built-in cubesearching features discussed in chapter 9.

Prerequisites

1. *ch1_001.pdf "Using The Kit"*

Exercises

1. *Searching a Cube (pg 2)*

CUBE SEARCH

1 Searching a Cube

Goal: Given the provided code, implement a basic cube search and feed the resulting “found objects” into code that will visually display that an object was “found”.

Starter Code: For this example, all of the functional code, except for the search, has been implemented. Your only job is to modify some marked segments of this code to do the cube search.

The code you need to modify is located between two markers “// EXERCISE BEGINS HERE” and “// EXERCISE ENDS HERE”.

```
// EXERCISE BEGINS HERE

//%curObject = ?????

while( isObject( %curObject ) )
{
    %curObject.setSkinName( "yellow" );
    %curObject.schedule( 250 , setSkinName , "red" );

    //%curObject = ?????
}

// EXERCISE ENDS HERE
```

Steps:

Please modify the two highlighted lines (in the code above) to implement a simple cube search with the following parameters:

- Only find StaticShapes.
- Search in an area centered on the bot's current location. The ID of the bot is stored in “%theBot”.
- Search a 10 x 10 x 10 cube.

CUBE SEARCH

Output Goal:

When you run the completed exercise, you will see a bot running (randomly) around the area. Additionally, you will see a series of concentric paths. As the bot runs around this area, the provided code (once you have updated it) will select any markers on the paths that are within the current search cube and change them to yellow. As the bot moves around, the selected markers will change, demonstrating that the search is working. Markers not in the search cube will stay red or change back to red if they were previously found.

See figure 1 below for a sample of what you'll see.

