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CS31

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Project 4 Report

2 a) There were many obstacles that I overcame while working on Project 4. One of them was to visualize the array in my head when debugging and walking through the code. It was difficult to imagine what was happening to the array. Sometimes I had to draw it out. The final function, split(), was especially difficult in this matter.

b) Here is a list of test data that can be used to test the program thoroughly:

First, an array must be declared: array[7] = { "selina", "reed", "diana", "tony", "", "logan", "peter" };

|  |  |
| --- | --- |
| Function Call | Reason |
| lookup(array, 7, “diana”) == 2; | To check if lookup function works, if target is found |
| lookup(array, 7, “raymond”) == -1; | To check if lookup function works, if target is not found |
| positionOfMax(array, 7) == 3; | To check if positionOfMax function returns the position of the maximum value |
| g[4] = { "selina", "reed", "peter", "sue" };  differ(array, 4, g, 4) == 2; | To check if the differ function works |
| g[4] = { "dan", "dave", "calvin", "steven" };  differ(array, 4, g, 4) == 4; | To check if the differ functions works, if there are no similar elements between the two arrays |
| g[4] = { "selina", "reed", "peter", "sue" };  appendToAll(g, 4, "?") == 4  g[0] == "selina?"  g[3] == "sue?" | To check if the appendToAll function works |
| g[4] = { "selina", "reed", "peter", "sue" };  rotateLeft(g, 4, 1) == 1  g[1] == "peter?"  g[3] == "reed?" | To check if the rotate left function works |
| e[4] = { "diana", "tony", "", "logan" };  subsequence(h, 7, e, 4) == 2 | To check if the subsequence function works |
| e[4] = { "diana", "", "tony", "logan" };  subsequence(array, 7, e, 4) == -1; | To check if the subsequence function works, if the smaller array is not inside the larger array |
| d[5] = { "reed", "reed", "reed", "tony", "tony" };  countRuns(d, 5) == 2; | To check if the countRuns function works |
| countRuns(h, 7) == 7; | To check if the countRuns function works, if there are no repeats in the array |
| string f[3] = { "peter", "diana", "steve" };  lookupAny(array, 7, f, 3) == 2; | To check if the lookupAny function works |
| string f[3] = { "raymond", "calvin", "steven" };  lookupAny(array, 7, f, 3) == 2; | To check if the loopkupAny function works, if there are no same elements in the two arrays |
| flip(array, 7) == 7;  array(0) == “peter”;  array(5) == “reed”; | To check if the flip function works on an odd numbered array |
| flip(e, 4) == 4;  e(0) == “logan”;  e(2) == “”; | To check if the flip function works on an even numbered array |
| split(h, 7, "peter") == 3 | To check if the split function works |