**CSC 250 – Program Design Document**

**Structure Chart**

total\_partic

readData

main

**123 659 235 523**

**331 126 178 99**

total\_each\_activity

total\_each\_year

highest\_partic

lowest\_partic

write\_file\_results

**Function Design (give the prototype and a short description for each function)**

//Reads activity names from activities2.txt into activityNames and associated integers into my\_array.

void readData(char activityNames[ROWS][CHARACTERS],int my\_array[ROWS][COLS]);

// Get the participation sum for each year from my\_array and stores results in yearlyTotal.

void total\_each\_year(int my\_array[ROWS][COLS], int yearlyTotal[COLS]);

// Get the total participation for each activity in my\_array and stores the results in activityTotal

void total\_each\_activity(int my\_array[ROWS][COLS], int activityTotal[ROWS]);

// Calculates and returns the overall total of all participations.

int total\_partic(int my\_array[ROWS][COLS]);

// Identifies the activity in my\_array with the highest participation.

int highest\_partic(int my\_array[ROWS][COLS]);

// Determines and returns the activity with the lowest participation value.

int lowest\_partic(int my\_array[ROWS][COLS]);

// Writes all the results, including the totals and highest/lowest participation activities, to resultsfile.txt.

void write\_file\_results(char activityNames[ROWS][CHARACTERS],int my\_array[ROWS][COLS], int yearlyTotal[COLS], int activityTotal[ROWS], int overallTotal, int highestp, int lowestp);

**Time Estimate**

|  |  |  |
| --- | --- | --- |
|  | **Estimated Time** | **Actual Time** |
| Program Design | **30** |  |
| readData | **30** |  |
| total\_each\_year | **30** |  |
| total\_each\_activity | **28** |  |
| total\_partic | **28** |  |
| highest\_partic | **35** |  |
| lowest\_partic | **30** |  |
| write\_file\_results | **35** |  |
| Program Test | **30** |  |
| **Total Time** | **281min** |  |