**CLASSES AND FUNCTIONS USED**

The classes, each member functions and member variables are listed below.

CLASS BALL (all variables are protected)

|  |  |
| --- | --- |
| int x | STORES LOCUS OF BALL ALONG COLUMNS |
| int y | STORES LOCUS OF BALL ALONG ROWS |
| int xdir | STORES THE DIRECTION OF X |
| int ydir | STORES THE DIRECTION OF Y |
| void move(int r, int c) | TAKES THE ROW AND COLUMN OF PLAY AREA AS PARAMETERS AND UPDATES THE POSITION OF THE BALL (updates x,y as (x+xdir,y+ydir) |

**CLASS SLIDER (all variables are public – the slider is user accessible)**

|  |  |
| --- | --- |
| Int col | TOTAL SPACE AVAIALABLE FOR THE SLIDER TO MOVE. EQUALS TO THE NUMBER OF COLUMNS OF THE PLAY AREA |
| Int size | LENGTH OF SLIDER. THIS VARIABLE IS USED ONLY IN THE BEGINNING TO INITIALIZE right & left. THIS VARIABLE IS NOT USED AFTER THAT. |
| Int right, int left | STORES LOCUS/INDEX OF RIGHTMOST AND LEFTMOST UNIT OF SLIDER. INITIALLY, right=(col+size)/2 and left=(col-size)/2+1. |
| Char \*sl | CHARACTER ARRAY STORING THE SLIDER UNITS AND WHITE SPACES. THE LENGTH OF THIS ARRAY IS EQUAL TO col. |
| Void move(char) | TAKES USER INPUT (‘A’ OR ‘D’ OR ‘J’ OR ‘L’) AND UPDATES THE VALUES OF right & left ACCORDINGLY OF THE ‘this’ OBJECT. |
| Void updateslider() | UPDATES SLIDER ARRAY (sl). VACATES THE WHOLE ARRAY EXCEPT POSITIONS LYING BETWEEN ‘right’ and ‘left’ |
| Void reducesize() | Void reducesize() REDUCES SLIDER SIZE. (right=right-1, left =left+1) |

**CLASS GAME: inherits publicly from CLASS BALL AND CLASS SLIDER (unless otherwise mentioned all are**

**private members)**

|  |  |
| --- | --- |
| char\*\* | playarea THE PLAY AREA MATRIX |
| int row | NUMBER OF ROWS OF PLAY AREA (NO OF COLS IS INHERITED) |
| Int score | STORES SCORE. |
| Int level | STORES LEVEL. |
| Int gamemode | =1 FOR 1P MODE, =2 FOR 2P MODE |
| Slider s2 | OBJECT OF SLIDER CLASS. USED AS 2P SLIDER. (NOTE THAT THE 1P SLIDER ARRAY \*sl IS ALREADY INHERITED BY THE CLASS). IT DOESNOT REQUIRE AN OBJECT TO MANIPULATE THE MANIPULATES THE 2P SLIDER.1P SLIDER. WHEREAS S2 |
| Int menu() | DISPLAYS MENU |
| Void print() | DISPLAYS THE GAME BOARD WITH 2 SLIDERS AND THE WALL |
| Void showscores() | Void showscores() DISPLAYS TOP 3 HIGHSCORES OF ALL TIME |
| Void instructions() | DISPLAYS MANUAL |
| Void initialize() | INITIALIZES x,y,xdir,ydir,this->right,this->left, s2.right, s2.left, playarea[], this->sl, s2.sl |
|  |  |
| Void updateboard() | UPDATES playarea ACCORDING TO THE NEWEST POSITION OF BALL(x,y) |
| Void updatescore() | AFTER GAMEOVER, UPDATES HIGHSCORE FILE. |
| Void settings() | USER CAN TWEAK SLIDER SIZE AND GAME AREA |
| Void play() (public) | ORCHESTRATES THE WHOLE GAME. (SEE FLOWCHART) |
| Game(int,int) (public) | CONSTRUCTOR USED TO INITIALIZE level, score and size. THE TWO INPUT PARAMETERS ARE ASSIGNED TO row & col RESPECTIVELY.DESTRUCTOR. DELAYS THE GAME WHEN A NEW OBJECT IS CREATED OR DESTROYED WHEN USER RESTARTS THE GAME OR QUITS THE GAME. |