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1: #include<stdio.h>
2: #include<time.h>
3: #define size 10
4: #define num_ship 5
5: /*
6: ----- Project OF Class : SVIT/B -----
7: ----- BattelShip Game Using Matrices -----
8: ----- of DATA STRUCTURE in C -----
9:
10:
11: ***** Group Members Details *****
12:
13: NAME ROLL no.
14:
15: 1) Shivam Dubey 4175
16: 2) Aayush Yadav 4124
17: 3) Aqsa Shaikh 4135
18:
19: ***** Global Variables : *****
20:
21: Name Data_type Details
22:
23: option Integer Creating the Variable for Selecting Main menu Option
24:
25: player_name[9] String The Varialbe for storing PLayers Name
26:
27: setting_op Integer Creating this variable for selecting the Option from setting menu
28:
29:
30: ***** Fuction Details : *****
31:
32: Name Details of
33:
34: aboutus() - This Function is Use To display the Section of About Us
35:
36: players_setting() - This function is for players setting Option in Setting .....
37:
38: setting_tab() - A Function for Setting option In Game
39:
40: help() - a function for the Help and the FAQ's option
41:
42: ***** Most used Function : *****
43:
44: > printf(" ");
45: > scanf(" ");
46:
47: */
48:
49:
50:
51: int option; // for Selecting the operation to perform
52: void aboutus(); //Declaring the Function About us for Aboutt us option
53: char player_name[9]="Guest 001"; // Creating the Variable for Players Name
54: void players_setting(); // Creating The Function for Setting Option
55: int setting_op; // Variable for selecting a option in settings
56: void setting_tab(); // creating a function for setting
57: void help(); // a function for the Help and the Fasqs option
58: void how_to_play(); // a function to display the How to play section
59: void delay(); //creating a Delay function to delay the Output
60: void play_hard();
61:
62: char user_board[size][size]; // this matrix is for the user To place the ship At any position in matrix
63: int i,j,k;
64: int num=0;
65: int num2=0; //
66: int counter=0; // this is counter variable
67: int put_ship;
68: int put_ship_row; // Variabale for taking the index at which row You want to Place Ship
69: int put_ship_column; // Variabale for taking the indexat which column You want to Place Ship
70: int computer_board[size][size]; // this Is a matrix for the Computer To Place The Ship According to Him
71: int getRandomNumber( min, max) // creating The Function Which will give the Random Number According to Him
72: {
73:     return min + rand() % (max - min + 1);
74: }
75: int ctarger_row; // temporary varibale for computer targetting row
76: int ctarger_column; // temporary varibale for computer targetting column
77: int utarget_row; // temporary varibale for user targetting row
78: int utarget_column; // temporary varibale for user targetting column
79: int put_random_row; // for Getting the Random row value
80: int put_random_column; // for Getting the Random Column value
81: void delay(); //creating a Delay function to delay the Output
82: void target_computer(); // user Will Target the Computer and Check For The Ship at Given index by user
83: void target_user(); // computer Will Target the user and Check For The Ship at Given index by user
84: int player_hits = 0; // Creating the variable to get the couter for the no of hits of player
85: int computer_hits = 0; // Creating the variable to get the couter for the no of hits of computer
86: void display_user_board(); // creating the function for Displaying the Users board
87:
88:
89: int main()
90: {
91:
92: while(1)
93: {
94:     printf("\n");
95:     delay(1);
96:     printf("Last Update : 01/09/2023 \t\t\t----- BATTELSHIP GAME USING MATRICES ----- \t\t Player Name\t\tUsing Data Structure\n");
97:     printf(" You are Up to date \t\t\t\t----- by SVIT students ----- \t\t [ %s ] \t\t Version 3.0.0.1 \n",player_name);
98:     printf("\n\n\n\n");
99:     printf("\t\t\t\t\t WELCOME TO \t\t\t\t\t \n");
100:     printf("\t\t\t\t\t BATTELSHIP GAME \t\t\t\t\t \n");
101:     printf("\t\t\t\t\t ***** \t\t\t\t\t \n\n\n\n");
102:     printf("\t\t\t\t\t > 1. Play \n ");
103:     printf("\t\t\t\t\t > 2. How to Play? \n");
104:     printf("\t\t\t\t\t > 3. About us \n");
105:     printf("\t\t\t\t\t > 4. Help & FAQ's \n");
106:     printf("\t\t\t\t\t > 5. Setting \n");
107:     printf("\t\t\t\t\t > 6. Quit \n");
108:     printf("\n\n\n\n\n");

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099: printf("\t\t\t\t\t >>> Enter Your Choice Here ..... ");
100: scanf("%d",&option);
101: printf("\n\n\n");
102: switch(option)
103: {
104:     case 1:
105:         delay(1);
106:         printf("\n\t\t\t\t\t You had Selected How to Play? Option \n\n");
107:         delay(1);
108:         printf("\t\t\t\t\t Wait we are Processing ..... \n\n");
109:         delay(1);
110:         printf("\t\t\t\t\t Wait we are processing....\n\n");
111:         delay(1);
112:         printf("\t\t\t\t\t Be patient while we are Processing ..... \n\n\n\n\n\n\n\n\n");
113:         play_hard();
114:         break;
115: 
116:     case 2:
117:         delay(1);
118:         printf("\n\t\t\t\t\t You had Selected How to Play? Option \n");
119:         delay(1);
120:         printf("\t\t\t\t\t Wait we are Processing .....");
121:         delay(1);
122:         printf("\t\t\t\t\t Be patient while we are Processing ..... ");
123:         printf("\n\n ");
124:         how_to_play();
125:         break;
126: 
127:     case 3:
128:         delay(1);
129:         printf("\n\t\t\t\t\t You had Selected About Option \n\n");
130:         delay(1);
131:         printf("\t\t\t\t\t Wait we are Processing .....");
132:         delay(1);
133:         printf("\t\t\t\t\t Be patient while we are Processing ..... ");
134:         printf("\n\n");
135:         aboutus(); //Calling the About us functionx
136:         break;
137: 
138:     case 4:
139:         delay(1);
140:         printf("\n\t\t\t\t\t You had Selected Help & FAQ's Option \n\n");
141:         delay(1);
142:         printf("\t\t\t\t\t Wait we are Processing .....");
143:         delay(1);
144:         printf("\n\n\t\t\t\t\t Be patient while we are Processing ..... ");
145:         printf("\n\n");
146:         help(); //Calling the About us functionx
147:         break;
148: 
149:     case 5:
150:         delay(1);
151:         printf("\n\t\t\t\t\t You had Selected Setting Option \n\n");
152:         delay(1);
153:         printf("\t\t\t\t\t Wait we are Processing .....");
154:         delay(1);
155:         printf("\n\n\t\t\t\t\t Be patient while we are Processing ..... ");
156:         printf("\n\n");
157:         setting_tab(); // function for setting Options
158:         break;
159: 
160:     case 6:
161:         delay(1);
162:         printf("\n\n");
163:         printf("add the ending statement comming soon ");
164:         //Calling the About us functionx
165:         break;
166: 
167:     default :
168:         delay(1);
169:         printf("\n\t\t\t\t\t Be patient while we are Processing ..... ");
170:         delay(1);
171:         printf("\n\t\t\t\t\t Invalid Input .... ");
172:         delay(1);
173:         printf("\n\t\t\t\t\t Try Again ");
174: 
175: }
176: return 0;
177: }
178: 
179: // Now creatin the Function of About us
180: void aboutus()
181: {
182:     delay(1);
183:     printf("\n\n\n ----- \n\n\n");
184:     printf("\t\t\t\t\t----- About us ----- \n\n");
185:     // Creating The section forthe Detail of Created Games
186:     printf("\n\t\t\tBattleship Game is a Paper pencil Games but to make More inserting and Adventures we had Added the Version where You \n\t\t\tCan Play With Computer ");
187:     printf("\nWhere You can Enjoy By Playing The Game In E-version , This Game will creates More Fun while playing ,\n\t\t\tYou Can Switch The Modes of Games \n");
188:     printf("\n\t\t\tThere Will be Total three Modes : \n\n");
189:     printf("\t\t\t\t\t 1. EASY Mode \n");
190:     printf("\t\t\t\t\t 2. MEDIUM Mode \n");
191:     printf("\t\t\t\t\t 3. HARD Mode \n");
192:     printf("\n\t\t\tBy using the Multiple Options You Can Play As You Wants So that you Have enjoy Well While playing The Games \n");
193:     printf("\t\t\tYou can also access to RULES AND REGULARTIONS section where you can Find the List a Rules For Playing Games\n");
194:     printf("\t\t\tYou Can Start Plying By Just Selecting the Option On Screen ..... \n\n");
195: 
196:     delay(1);
197:     printf("\n\t\t\t\t\t----- Description of Game ----- \n\n");
198:     // frist paragraph
199:     printf("\n\t\t\tBattleship is a turn-based 2-player game.Each player has a 10x10 \n\t\t\tgrid where the ships are placed randomly.\n");
200:     printf("\t\t\tEach player fires in the \n\t\t\tadverse grid and tries to sink their enemy's fleet in turns.\n");
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[illegible]

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542: }
543: 
544: void target_computer()
545: {
546:     delay(1);
547:     printf("\n\n");
548:     delay(1);
549:     printf("\n\t\t\t\t\t Your Board \n");
550:     delay(1);
551:     display_user_board();
552:     //ctarget_row for Targetting the Row of Computer ;
553:     //ctarget_column for targeting the column of Computer ;
554: 
555:     while(1)
556:     {
557:         delay(1);
558:         printf("\n\t\t\t\t\t Enter the Targeted Row : ");
559:         scanf("%d",&ctarget_row);
560:         delay(1);
561:         printf("\n\t\t\t\t\t Enter the Targeted Column : ");
562:         scanf("%d",&ctarget_column);
563:         if(ctarget_row>9 || ctarget_column>9 )
564:         {
565:             delay(1);
566:             printf("\n\t\t\t\t\t Invaild Row and Column Again ");
567:             delay(1);
568:             printf("\n\t\t\t\t\t Enter the row and column between (0 - 9 ) ");
569:         }
570:         else if(ctarget_row<0 || ctarget_column<0 )
571:         {
572:             delay(1);
573:             printf("\n\t\t\t\t\t Invaild Row and Column \n");
574:             delay(1);
575:             printf("\n\t\t\t\t\t Enter the row and column between ( 0 - 9 )");
576:         }
577:         else
578:         {
579:             break;
580:         }
581:     }
582: }
583: 
584: 
585: if(computer_board[ctarget_row][ctarget_column]=='S' )
586: {
587:     delay(1);
588:     printf("\n\n\t\t\t\t >>> You Hit");
589:     computer_board[ctarget_row][ctarget_column]='H';
590:     player_hits++;
591: }
592: else
593: {
594:     delay(1);
595:     printf("\n\n\t\t\t\t >>> You Miss");
596:     computer_board[ctarget_row][ctarget_column]='X';
597: }
598: 
599: 
600: }
601: }
602: 
603: 
604: void target_user()
605: {
606:     //utarget_row; is Use to target The Users MATRIX by Computer Row
607:     //utarget_column; is Use to target The userd matrix by column
608:     printf("\n\n");
609:     utarget_row=getRandomNumber( 0, size-1);
610:     delay(1);
611:     printf("\n\t\t\t\t\t Computer Entered the Row index .... %d ",utarget_row);
612:     utarget_column=getRandomNumber( 0, size-1);
613:     delay(1);
614:     printf("\n\t\t\t\t\t Computer Entered the Column index .... %d ",utarget_column);
615: 
616: 
617:     if(user_board[utarget_row][utarget_column]=='S' )
618:     {
619:         delay(1);
620:         printf("\n\n\t\t\t\t >>> Computer Hit");
621:         user_board[utarget_row][utarget_column]='H';
622:         computer_hits++;
623:     }
624:     else
625:     {
626:         delay(1);
627:         printf("\n\n\t\t\t\t >>> Computer Miss");
628:         user_board[utarget_row][utarget_column]='X';
629:     }
630: }
631: }
632: 
633: 
634: void display_user_board()
635: {
636:     num=0;
637:     printf("\t\t\t\t\t 0 1 2 3 4 5 6 7 8 9 \n");
638: 
639:     for(i=0;i<size;i++)
640:     {
641:         printf("\t\t\t\t\t\t\t%d ",num); // This is for the Linear Matrix
642:         num++;
643: 
644:         for(j=0;j<size;j++)
645:         {
646:             printf("%c ",user_board[i][j]);

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649:         printf("\n");
650:
651:     }
652:
653: }
654:
655:
656:
657:
658:
```