## *User manual 2: Game coding instructions*

1. You have to write strictly “C” code for game.

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 8 | **0** | **2** | **0** | **2** | **0** | **2** | **0** | **2** |
| 7 | **2** | **0** | **2** | **0** | **2** | **0** | **2** | **0** |
| 6 | **0** | **2** | **0** | **2** | **0** | **2** | **0** | **2** |
| 5 | | | | | | | | |
| 4 | | | | | | | | |
| 3 | **1** | **0** | **1** | **0** | **1** | **0** | **1** | **0** |
| 2 | **0** | **1** | **0** | **1** | **0** | **1** | **0** | **1** |
| 1 | **1** | **0** | **1** | **0** | **1** | **0** | **1** | **0** |

**Initial position in game engine : 1: palyer 1 and 2:payer 2**

**Possible moves for player1 : A3B4 ,C3D4,C3B4,E3F4,E3D4,G3H4,G3F4 & K = 7**

**Possible moves for palyer2:B6A5,B6C5,D6C5,D6E5,F6E5,F6G5,H6G5 & K = 7**

2. You have to download game engine from Mind Spark website.

3. Your code should work both as payer1 as well as player2.

4.Each participant will get two chances, one as player1 and other as player2, so as to eliminate advantage of first player.

5. Result of match will be decided by considering both games

i.e. Match 1: player1 vs. player2

Match 2: player2 vs. player1

6. You have to name your C file by your team name.

E.g. If your team name is xyz, then name the file as xyz.c

7. Your C file should have a function having prototype as follows,

```
int <TeamName>(puck boardCheckers[8][8],int player,char array[32][4],int k)
{
/*Write your code here.*/
}
```

**This is only function which will be called from game engine. Your code must**

8. Following are the data structures that will be used in coding:

**1.puck boardCheckers[8][8];**
This is 8 x 8 character array. This array will show current content on
the Checkers board.
Puck is an enum type which has values as:
EMPTY = 0 //the box is empty

PLAYER1 = 1 // The box is occupied by player 1 or red player(not a king).

PLAYER2 = 2 //The box is occupied by Player 2 or white player(not a king).

KINGPLAYER1 = 3 // The box is occupied by player 1 or red player which is king.

KINGPLAYER2 = 4 // The box is occupied by player 2 or white player which is king.

e.g. if boardCheckers[4][4]= 1, it means that the 5th row and 5th column of the board is occupied by player 1 (not king)

**2.int player**
Indicates which player you are .
If you are playing as player 1 then player = 1 else player = 2

**3. char array[32][4]**

This is 32 X 4 char array. This array shows which all moves are possible.
As one has to jump if possible, this array will contain either jumps or simple moves. Each row of the array indicates a move.
e.g. if array[1] = A2B3, (see figure)it means that you can move from cell A2 to cell B3
i.e array[1][0] = A,
    array[1][1] = 2
    array[1][2] = B
    array[1][3] = 3

**4. int k**

This value indicates the total number of valid moves or jumps contained in **char array[32][4].**

**Return Value : Your function code must return an index such that 0>=index < k when called. If the value is not in the above range ,you will be disqualified for returning a wrong move.**
**In case of possible multiple jumps, your function will be called repetitively with the array[32][4] containing valid jumps for the a single piece taking multiple jump and k having the appropriate value.**

**8.1** Important Instruction in game coding

***Do not declare main function in your code.**

***Remember only function mentioned above (function having name of your team name ) will be called from game engine. Return type of this function must be integer.**

***Game Engine will call above function of two fighting codes alternatively.**

Variables and Function Declarations :<u>All other functions must be prefixed by your team name .similarly all global variables, structures must be prefixed by your team name.</u>

e.g.

*if you want to declare function void getmove(void)   declare it as*

```
void  <team name>_getmove()

{}
```

*Similarly declare global variables as*

```
int  <team name>_variable;
```

*Use same conventions for declaring structures and macros.*

**See the User Manual3 for steps to run Game Engine and GUI engine.**

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