

CME1211 Algorithms and Programming I
Homework 2

Upload your source code file from *DEUZEM SAKAI* until **November 28, 2021, 23:55**.



Upload only a single *.cs file.

The name of the file: **number_name_surname.cs**

For example: 2019510028_ali_yildirim.cs

DEU Game

Write a C# program for a simple **DEU** game.

There are three **arrays** (A1, A2, and A3) with 15 in size. Initially, they are empty.

There are two players: *player1* and *player2*.

The aim of the game is to make the "D-E-U" sequence (straight or reverse) among connected squares (horizontally or vertically or diagonally).

The game turns alternate between players after each move. At each turn of the game, the program randomly inserts one of the three letters "D", "E" or "U" to any array for a player. In other words, the program determines both the letter and target array randomly.

At the begging of the game, each player has a score of 120. At each turn, the score of the player decreases by 5 points.

The game is over

- if a player succeeds in creating a "DEU" pattern (the winner is the player who made the first "DEU")

or

- if all arrays are filled up and there is no any "DEU". (the game is a draw (tie))

The program must display all steps until the game is over.

There are two arrays to store a high score table:

```
string[] names = {"Derya", "Elife", "Fatih", "Ali", "Azra", "Sibel", "Cem", "Nazan", "Mehmet", "Nil", "Can", "Tarkan"};
```

```
int[] scores = {100, 100, 95, 90, 85, 80, 80, 70, 55, 50, 30, 30 };
```

At the end of the game, the program must print the *high score table*. If the point of the winner exists in the score table, the player ID (Player1 or Player2) and his/her score are placed under the old one. First, insert the new element to the arrays, and then print the arrays.

Don't take any input from the user.

If you want, you may write your own "*procedure(s)* and/or *function(s)*".

This homework will be graded by Res.Asst. Elife ÖZTÜRK KIYAK.

You can ask your questions to her from the "**FORUM → Homework 2 - Questions**" part of the *DEUZEM SAKAI* software.

Sample outputs:

Sample output 1:	Sample output 2:	Sample output 3:
Player1: (P1-115 P2-120) A1 E A2 A3	Player1: (P1-115 P2-120) A1 A2 U A3	Player1: (P1-115 P2-120) A1 A2 A3 D
Player2: (P1-115 P2-115) A1 E	Player2: (P1-115 P2-115) A1	Player2: (P1-115 P2-115) A1

A2 U A3 Player1: (P1-110 P2-115) A1 E A2 U D A3 Player2: (P1-110 P2-110) A1 E D A2 U D A3 Player1: (P1-105 P2-110) A1 E D A2 U D E A3 Player2: (P1-105 P2-105) A1 E D A2 U D E A3 D Player1: (P1-100 P2-105) A1 E D A2 U D E U A3 D winner: Player1 <table><tr><th>Name</th><th>Score</th></tr><tr><td>Derya</td><td>100</td></tr><tr><td>Elife</td><td>100</td></tr><tr><td>Player1</td><td>100</td></tr><tr><td>Fatih</td><td>95</td></tr><tr><td>...</td><td></td></tr></table>	Name	Score	Derya	100	Elife	100	Player1	100	Fatih	95	...		A2 U A3 D Player1: (P1-110 P2-115) A1 E A2 U A3 D Player2: (P1-110 P2-110) A1 E A2 U A3 D U Player1: (P1-105 P2-110) A1 E A2 U E A3 D U Player2: (P1-105 P2-105) A1 E A2 U E A3 D U E Player1: (P1-100 P2-105) A1 E A2 U E A3 D U E U Player2: (P1-100 P2-100) A1 E A2 U E U A3 D U E U Player1: (P1-95 P2-100) A1 E D A2 U E U A3 D U E U winner: Player1 <table><tr><th>Name</th><th>Score</th></tr><tr><td>Derya</td><td>100</td></tr><tr><td>Elife</td><td>100</td></tr><tr><td>Fatih</td><td>95</td></tr><tr><td>Player1</td><td>95</td></tr><tr><td>...</td><td></td></tr></table>	Name	Score	Derya	100	Elife	100	Fatih	95	Player1	95	...		A2 E A3 D Player1: (P1-110 P2-115) A1 A2 E A3 D D Player2: (P1-110 P2-110) A1 A2 E A3 D D Player1: (P1-105 P2-110) A1 A2 E A3 D D D Player2: (P1-... P2-...) A1 E U U E E D D U U U D U D D D A2 E U U E E D D D U U E E E U E A3 D D D E E U E E U U E E E U D Tie <table><tr><th>Name</th><th>Score</th></tr><tr><td>Derya</td><td>100</td></tr><tr><td>Elife</td><td>100</td></tr><tr><td>Fatih</td><td>95</td></tr><tr><td>Ali</td><td>90</td></tr><tr><td>...</td><td></td></tr></table>	Name	Score	Derya	100	Elife	100	Fatih	95	Ali	90	...	
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Notes:

1. Your program must work correctly under all conditions. Try to control all possible errors.
2. You should use meaningful variable names, appropriate comments, and good prompting messages.
3. If you are late, your grade will be decreased 10 points for each day.
After five days, your assignment will not be accepted.
4. Assignment must be your individual work.
Cheating is strictly prohibited.
If any cheating occurs, your assignment will be graded with **zero (0)**.
A software will be used to automatically detect the similarities between students' source-codes.