

Create a game where:

- You are playing with (controlling) a rectangle what you can move with arrows (4 directions: left, right, up and down).
- Your goal is to:
 1. Avoid the randomly moving red ball: touching this ball removes a life. Escape from it and try to stay alive as long as possible.
 2. Catch (touch) the randomly appearing bonus balls: they give you points. Catching them 5 times also gives you an extra life (increases the number of lives by 1).
 3. Game ends when you run out of lives.

Download the example of how the base should look like:

https://www.dropbox.com/s/2nvr3bw0y8kdy6w/HW_13.exe?dl=0

NB! This example is missing user inputs (red ball size and speed) and options for keeping score and saving it.

Score:

Keep track of score and display it on the form. Score depends on:

1. Time stayed alive. The longer the player plays and stays alive the more points he/she gets.
2. Size and speed of the random red ball (bigger = more points, faster = more points).
3. Touching the bonus balls (touching them gives points).

Saving scores to text file:

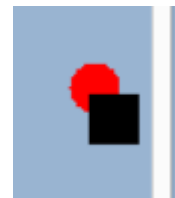
Keep in scores.txt (debug folder) file 3 highest scores (sorted) and display them every time the game ends. If user creates a new (top 3) high score then add it to the file.

Example:

- Scores in the file are: 400, 200, 100. User creates score 300 (is among top 3 scores). File should be now 400,300,200.
- Scores in the file are: 1000,1001,3000. User creates score 500. Display the scores from file and do not add the user score there.

Requirements:

- Randomly appearing bonus balls are displayed for 3 seconds and then hidden for 3 and then appear again for 3 seconds in a new location. (3 seconds displayed, 3 seconds hidden, 3 seconds displayed, 3 seconds hidden etc)
- When initially placing the randomly moving ball and the rectangle make sure they do not touch (look at the image on right: this should not happen!).
- Every time collision happens (rectangle touches the red ball) then a life is lost.
- User can choose the size and the speed of the random red ball.
- Game starts with 3 lives.
- Black rectangle should not exit the game field (it should always be visible).



Recommendations:

- Add 2 timers: one for moving the red ball and other one for displaying/hiding the bonus ball (use different intervals for timers).
- Think what events you should use and when something should happen.
- Browse through the exercise task: there are many useful tips (when to disable the controls, where to attach KeyDown event etc)
- Think what properties need to be global (defined outside the methods) and which ones not.
- Recommended order of doing things:
 1. Add randomly moving red ball on the form.
 2. Add black rectangle.
 3. Add option to move the black rectangle (KeyDown event) with arrows.
 4. Detect the collision between black rectangle and red ball.
 5. Add the bonus ball.
 6. Add input controls: user can choose size and speed of the red ball.
 7. Add logic for keeping score: think what and how should affect the score. Display the score.
 8. Add end of game: stop movement of the controls. Display „Game over“ and 3 high scores.