

**SilverCoders** EMPOWERING SENIORS

DIGITAL LITERACY IMPROVEMENT THROUGH EFFECTIVE

LEARNING EXPERCIENCES FOR ADULTS

# Challenge #26 SPACE INVADERS

ERASMUS+ No. *2020-1-SE01-KA227-ADU-092582*

**CODING TRAINING PROGRAMME FOR +55 ADULTS**



STRUCTURE OF THE CHALLENGE

## DESCRIPTION

## You were provided with a setup that is meant to work as the basis for this space invaders game. In the beginning we can move the ship but you have to make everything else work.

## GENERAL GOAL

## In this challenge you are going to create a space invaders type of game where your enemies show up from the right.

## LEARNING OBJECTIVES

In the end of this challenge, you will be able ...:

* To have experience with a visual programming suite and be able to code standard small piece of software with it.
* Know what statements and command lines are and what they mean for a compiler.
* To be able to write instructions using correct syntax and with minimal errors.
* Know what operators are, what they do and which symbols stand for which operators.
* To be able to understand the assignment of values to variables and how to change them.
* To know all the basic arithmetic operations and how to use them.
* Recognize and know how to use all the data structures related to numbers.
* To know the structures linked to the use of text, such as strings and characters.
* To be able to use If statements correctly to execute code according to a certain defined fixed condition.

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| INSTRUCTIONS |
| This is your initial setup. There are already some events to make the ship move and fire. But look carefully at the objects that you have available, their properties and behaviours.    Let's start to code!  In the beginning of the game, we are going to create the various objects for the game and initialize the variables. The variable Pause allows us to check if the player pressed the Pause button. We start the game with the rocks with a random rotations (just to make them look different.    Then we set the events for the creation of our ship and its destruction. We also create a bullet and attach it to our ship’s cannon (remember the last challenge?).    Then we setup the controls to play the game. We can move the ship that will be always firing.    And we also create the enemies. We have different types of enemies and one of them will actually shoot at us (can you tell which one?). One important aspect here is the Vulnerable name which represents a group of different objects.    Now you are going to create the conditions for the game, starting by the destruction of our ship and the destruction of the enemies.    Finally, what happens if we loose the game (by being hit by an enemy)    There are a few other ents in the Final version that add up some visual spice to the game. Check them out! |

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| RESOURCES |
| Challenge 26 (Basic) |