

SilverCoders

DIGITAL LITERACY IMPROVEMENT THROUGH EFFECTIVE
LEARNING EXPERIENCES FOR ADULTS



LEARNING SHEET #1 RANDOMNESS

LEARNING SHEETS DESCRIBE ACTIVITIES
THAT HELP INSTRUCTORS INTEGRATE THE
SILVERCODERS CHALLENGES AND TOOLS
INTO THEIR TRAINING PRACTICES.

CODING TRAINING PROGRAMME FOR +55 ADULTS



SILVER CODERS

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STRUCTURE OF THE ACTIVITY

GENERAL DESCRIPTION, CONTEXT AND GOAL

The main goal of the activity is for the learners to understand the mathematical concept of randomness. Learners will use a game that draws random points on the screen together with theoretical information about this branch of mathematics. Then they will make coding changes to the game to observe the effect of those changes.

LEARNING OBJECTIVES

In the end of this activity, the learner will be able to...

1. Understand what randomness is
2. Understand how computers deal with randomness
1. Use randomness in their games

INSTRUCTIONS

STEP 1 - PREPARATION

The trainer should read the learning sheet beforehand and follow all the instructions to make sure he/she fully understands the required steps. This will also allow the trainer to make sure that all resources are available and to look for additional resources if the original ones are not available.

RESOURCES

- File LS #1 Game Random.zip
- <https://en.wikipedia.org/wiki/Randomness>

STEP 2 - PRESENTATION

The trainer presents the problem to the class and shows the required resources. Learners are challenged to read the web page on Randomness. The trainer should discuss this with learners with situations of real life.

STEP 3 – PLAY THE GAME

Learners should then read the following resource to understand how computers generate pseudo-random numbers. The trainer should discuss with them why computers cannot generate real random numbers. Learners should then play the game.

RESOURCES

- https://en.wikipedia.org/wiki/Random_number_generation



STEP 4 – CODE THE GAME

The trainer should then ask the learners to change the game. For instance, a new form can be displayed (diamond, oval, etc.) and learners should then generate random numbers inside that form.

STEP 5 – EUROMILLIONS GENERATOR

EuroMillions is a transnational lottery that requires seven correct numbers to win the jackpot. Ask learners to read the resource and to try to create a EUROMILLIONS GENERATOR.

RESOURCES

- <https://en.wikipedia.org/wiki/EuroMillions>

STEP 6 - ASSESSMENT

The trainer can assess learners on the basis of the achieved results in step 4 and/or 5.



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