National Centre for Computing Education

Raspberry Pi

Where do we go from here?

This is a list of suggested projects that you can build after finishing this first Python programming unit.

Project About me

Write a Python program to tell people about yourself (rpf.io/about-me).

Project Rock, paper, scissors

Make a 'Rock, paper, scissors' game and play against the computer (rpf.io/rock-paper-scissors).

Project Story time

Create a program that generates a random story, based on what the user types in (rpf.io/storytime).

Project What's the password?

Create a program that asks the user for a (pre-specified) password. The user is allowed a maximum of three attempts at entering the correct password, otherwise access will be denied.

This is very similar to the number guessing game (ncce.io/py-lucky-64) that you developed in the last lesson.

Project The subtraction game

In the subtraction game, two players start with a heap of objects (matchsticks, toothpicks, etc.) and take turns removing one, two, or three objects from the heap, until none remain. The winner is the player that takes the last object from the heap (although there are versions of the game where the player that takes the last object loses).

Create a program where two players play the subtraction game, or where a human player plays the subtraction game with the program as an opponent. The number of objects that the players start with can be randomly selected at the start of the game.

There is a simple winning strategy for the subtraction game and its more general version called 'nim'. This is the reason why it was one of the first games to be automated. Nim-playing machines like Westinghouse Electric Corporation's Nimatron and Ferranti's Nimrod made their appearance in the 1940s and 1950s.