The randomly selected number can be found so quickly because the range of numbers the computer is searching for is reduced in half every time. So when the program starts there is a 1/1000 chance of getting the correct number. Then on the second guess there is a 1/500 chance of getting the correct number. The denominator keeps getting halved, doubling the chance of the correct number being guessed every time. Therefore the computer is able to guess the number very quick.