

# Lab 10 Lottery Number Generator

*Learning Objectives: Demonstrate understanding of lists and using imported modules (random)*

Many states, like California, use lotteries to raise money for things like public schools and infrastructure.

In this lab you will create a program that generates lottery tickets, either randomly or by allowing the user to enter their own numbers.

## Step 1: Create a function that generates a random lottery ticket

Write a function that takes no parameter and returns a list.

Use *random* and *sample* to generate a list of five unique (meaning no repeats) integers between 1 and 49 inclusive. Append to your list a sixth integer, for the mega number, between 1 and 19 inclusive. This number can be the same as any of the original 5 lottery numbers.

Return the list.

## Step 2: Create a function that creates a custom lottery ticket

Write a function that takes no parameters and returns a list.

Get console input from the user for five unique (meaning no repeats) integers between 1 and 49 inclusive.

Append to your list a sixth integer from the user, for the mega number, between 1 and 19 inclusive. This number can be the same as any of the original 5 lottery numbers.

Return the list.

Note: if the user enters the same number more than once your program should catch the error and ask for the number again. For example:

Enter your lottery number between 1 and 49: 17

Enter your lottery number between 1 and 49: 17

Invalid entry. Number must be between 1 and 49. Numbers cannot be repeated.

Enter your lottery number between 1 and 49: 29

## Step 3: Create the main function

Write the main function.

Welcome the user and prompt them to select a custom lottery ticket or a random ticket.

Welcome to Python Lotto!

You have the option to choose your own lottery numbers or have them randomly selected for you.

Please enter C for custom or R for random:

Depending on their selection your program should then call the appropriate function and output the final results.

Your lottery ticket is: 08 13 37 09 22 (mega 16).

## Test

Run your program and try out the different options. Here is an example for the user choosing a random lottery ticket:

Welcome to Python Lotto!

You have the option to choose your own lottery numbers or have them randomly selected for you.

Please enter C for custom or R for random: R

Your lottery ticket is: 37 24 40 21 03 (mega 19).

Here is an example for the user choosing to create a custom lottery ticket:

Welcome to Python Lotto!

You have the option to choose your own lottery numbers or have them randomly selected for you.

Please enter C for custom or R for random: C

Enter your lottery number between 1 and 49: 15

Enter your lottery number between 1 and 49: 7

Enter your lottery number between 1 and 49: 42

Enter your lottery number between 1 and 49: 33

Enter your lottery number between 1 and 49: 25

Enter your mega number between 1 and 19: 12

Your lottery ticket is: 15 07 42 33 25 (mega 12).

## Submit

There are two automated tests for this lab so make sure they pass before submitting. As always, stop by student hours, send an email, check in with a peer, or stop by the STEM Center if you need any assistance.