

For this exam I would like you to write a program that helps people win the lottery by analyzing the winning New York Power Ball numbers over the last several years. In the New York Power Ball game, six numbers are selected and the chosen numbers are always between 1 and 69 (inclusive).

To complete this task you will be given a text file that contains the weekly winning numbers (six numbers per line). Commas separate the winning numbers on each line. For example, the first two lines of the file contain the winning numbers for the first two lotteries:

```
03,27,34,59,69,19
12,13,44,52,62,06
```

This exam has been broken into three parts. **Part 1** requires you to allow the user to enter a number and you should print how many times that number was one of the winning numbers in the lottery. The user should be able to enter as many numbers as they like. If they enter a number that is not between 1 and 69 (inclusive) an error message should be printed and they should be allowed to try again. If they enter -1, the program should exit. Here is the output of a sample run of the program after Part 1 has been implemented:

```
Enter powerball number: 43
43 was picked 45 times.
Enter powerball number: 62
62 was picked 6 times.
Enter powerball number: 77
Invalid choice.
Enter powerball number: -1
```

For **Part 2**, add the ability for the user to enter 99 in order to see the number that was selected the most often. If there is a tie for the most selected number, print the largest one. (e.g., if 45 and 57 were both chosen 47 times, pick 57). Here is the output of a sample run of the program after Part 2 has been implemented:

```
Enter powerball number: 99
Most popular number is 29.
```

Finally, **Part 3** should allow the user to enter 0 in order to see the 6 most selected numbers. Again, ties should be broken by selecting the larger number. Here is the output of a sample run of the program after Part 3 has been implemented:

```
Enter powerball number: 0
Play: 29,13,12,11,10,7
```

There are a few more rules you have to follow for all three parts:

1. You can only read the numbers from the file once (when your program first starts).
2. You cannot use any structures or classes.
3. You must use at least one vector as the primary data structure for keeping track of the lottery data.
4. You are allowed to use any of the code in the course repository and you are allowed to use Google for help.

NOTE: Part of your grade is based on how efficient your program is. When you are done, please submit the zipfile that is automatically created by your makefile.