Working with Ranges

So far we have added, accessed, and removed single elements in a list. What if we wanted to add, access, or remove multiple elements at once?

In the world of lists we call a subsequence of elements a *range*. For example, this list has 5 elements:

```
[ "first", "second", "third", "fourth", "fifth" ]
```

We can say the range of elements from index 1 to 3 is:

```
[ "second", "third", "fourth" ]
```

Here are four common range-related methods:

AddRange() — takes an array or list as an argument. Adds the values to the end of the list. Returns nothing.

InsertRange() — takes an int and array or list as an argument. Adds the values at the int index. Returns nothing.

RemoveRange() — takes two int values. The first int is the index at which to begin removing and the second int is the number of elements to remove. Returns nothing.

GetRange() — takes two int values. The first int is the index of the first desired element and the second int is the number of elements in the desired range. Returns a list of the same type.

Here is each one in action:

```
List<string> places = new List<string> { "first", "second" };

places AddRange(new string[] { "fifth", "sixth" });

// List is "first", "second", "fifth", "sixth" ]

places InsertRange(2, new string[] { "third", "fourth"});

// List is [ "first", "second", "third", "fourth", "fifth", "sixth" ]

places RemoveRange(4, 2);
```

```
// List is [ "first", "second", "third", "fourth" ]
List<string> newPlaces = places GetRange(0, 3);
// New list is [ "first", "second", "third" ]
```

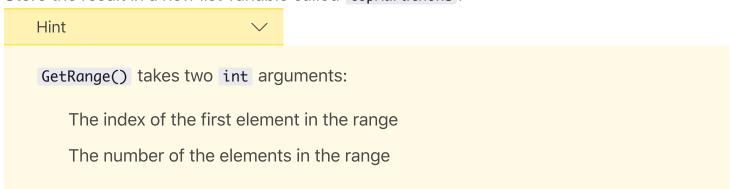
You don't need to memorize these methods, but you should be familiar with the concept of ranges! You can always look up the methods again in the <u>Microsoft</u> documentation.

Instructions

1.

Use GetRange() to get the first three elements in the marathons list.

Store the result in a new list variable called topMarathons.



2. Loop through the topMarathons list and print each value to the console.



Use a foreach loop to iterate over the list.