

Basics of Programming III

List Definition

In programming, *lists* are a basic data structure that stores multiple pieces of information in an ordered, linear sequence.

```
myList = ["apple", "banana", "grapes"]
```

Data Structure Definition

In programming, *data structures* are an organized way to access and manage data.

List Index Definition

In programming, the position of a value in a list is known as its *index*. An item in a list can be accessed by its index.

```
myList = ["apple", "banana", "grapes"]
```

```
myList[1] //returns 'banana', if a list is  
zero-indexed
```

List Append Definition

In programming, when item is added to the end of a list, this is known as *appending*.

```
myList = ["apple", "banana", "grapes"]
```

```
myList.append("pear") // adding an item to  
the end of a list in javascript
```

```
// returns ["apple", "banana", "grapes",  
"pear"]
```

For Each Loop Definition

In programming, a *for each* loop executes a set of instructions for each item in a given collection.

A for each loop to add a list of destinations to a tourism application may look like this:

```
FOR EACH destination in the list:  
    Add destination to app
```

For Loop Definition

In programming, a *for* loop executes a set of instructions for a specified number of times.

A for loop to add landmarks to a map may look like this:

```
UNTIL 20 landmarks have been added to the map:  
    Add landmark to map
```

While Loop Definition

In programming, a *while* loop executes a block of code as long as a given condition evaluates to true.

A while loop to make sandwiches as long as there is bread left may look like this:

```
WHILE there is bread left:  
    Make a sandwich
```

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