



Data Management: Lists

Practice 11: Working with data sets

1 Introduction

So far, each variable could only store one piece of data (a number or text). But what if we want to save the names of 20 students or the temperatures for the entire week? For that, we use **Lists**.

A list is a special variable that allows you to store many items in an orderly way under a single name. Each item occupies a **position** (index).

2 Key Concepts

- **List (Red):** A container for ordered data. In Snap! they are in the **Variables** category.
- **Index:** The number indicating the position of an item (the first item is 1).
- **Length:** The total number of items currently in the list.

3 Practice: The Smart Shopping List

Task 1: Create and Add

1. Create a variable named `shopping` and set it as an empty list.
2. Create a script that asks the user: *"What do you want to buy?"*.
3. Use the `add [answer] to [shopping]` block to fill the list.
4. Repeat this process 5 times using a loop.

Task 2: Query and Remove

1. Make the sprite say the length of the list: *"You have to buy X items"*.
2. Add a condition: if the list contains "chocolate", the sprite should say: *"Don't forget the sugar!"*.
3. Create a key press (e.g., "space") that removes the last item from the list if the user makes a mistake.

Text-Based Language Code (JavaScript)


In languages like JavaScript, lists are called *Arrays*:

```
// 1. Create an empty list
let shopping = [];

// 2. Add items
shopping.push("Apples");
shopping.push("Milk");

// 3. Access an item (note: JS starts at index 0)
console.log("First item: " + shopping[0]);

// 4. List length
console.log("Total items: " + shopping.length);
```

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