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ICE 9 – Ice Cream V2

Part 2 – Initial Screen
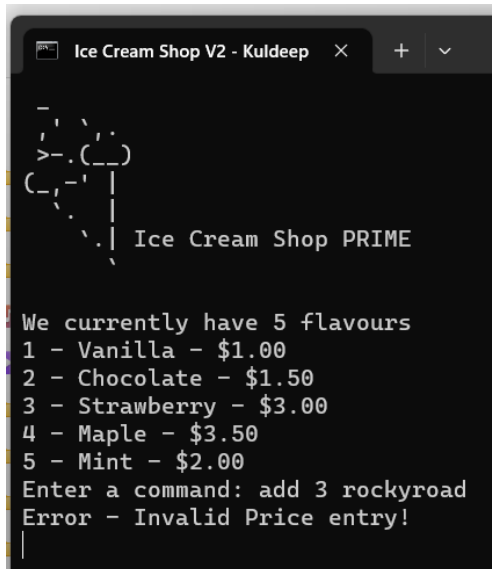
Screenshot 1

Context: Initial Screen when the application opens. It displays to the user the opening banner of "Ice Cream Shop V2" as well as a menu that shows the current flavours that are available to the user. The last line also appears prompting the user for input on what they would like to do next.

Part 3 – Input Screen and Validation

Screenshot 2 (Invalid User entry + Next prompt with refreshed and cleared error display)

Context: User had entered the add command with incorrectly inputted parameters (values were appropriate but not with the correct order they are to be inputted – "flavour name", "price" – hence the app refreshed the menu display and prompted the user again what they would like to do

Screenshot 3 – Delete command.

Context: User had entered an incorrect input value for the delete command and was given an error message

```
        _
      '  '   \     '  '  .
       >-.(__)
      (_,-'  |
          ` .   |
            ` .|  Ice Cream Shop PRIME
              `

We currently have 5 flavours
1 - Vanilla - $1.00
2 - Chocolate - $1.50
3 - Strawberry - $3.00
4 - Maple - $3.50
5 - Mint - $2.00
Enter a command: sort rating
Error - Invalid Sorting!
```
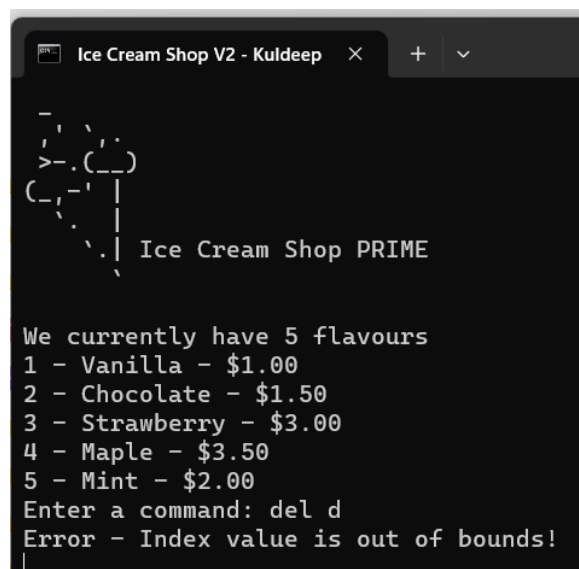
Screenshot 4 – Sort command

Context: User tried to ask for a sorting method that was not available as one of the pre-defined choices – "name" or "price".

```
      _
    ,' ' `.
    >-.(__)
   (_,-' |
       `. |
        `.|  Ice Cream Shop PRIME
          `

We currently have 5 flavours
1 - Vanilla - $1.00
2 - Chocolate - $1.50
3 - Strawberry - $3.00
4 - Maple - $3.50
5 - Mint - $2.00
Enter a command: add potato 5.50
```
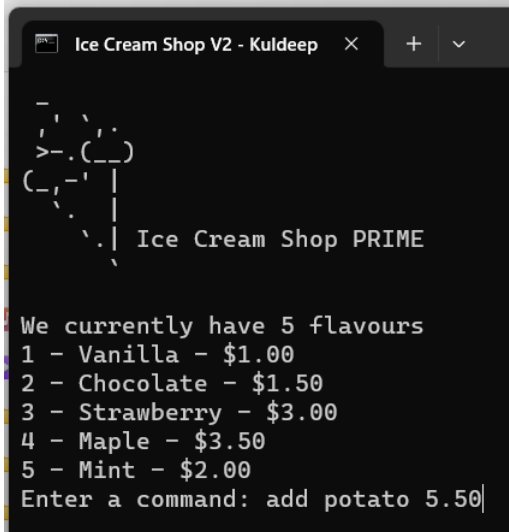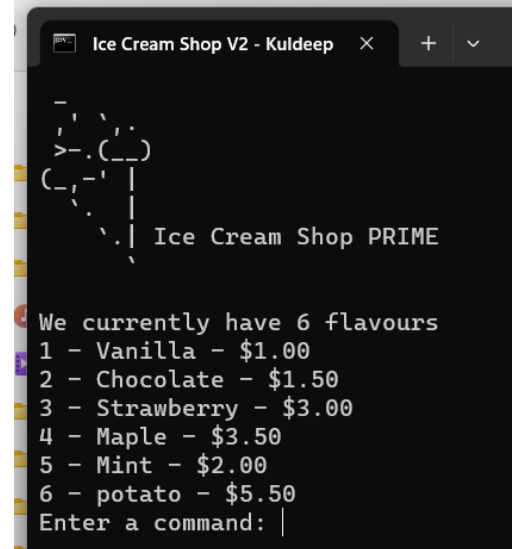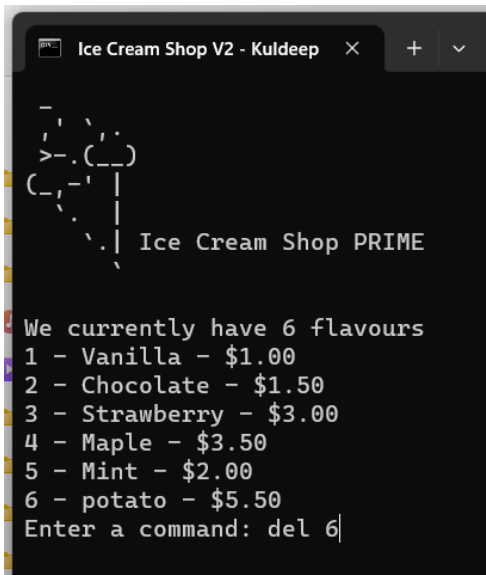
```
      _
    ,' ' `.
    >-.(__)
   (_,-' |
       `. |
        `.|  Ice Cream Shop PRIME
          `

We currently have 6 flavours
1 - Vanilla - $1.00
2 - Chocolate - $1.50
3 - Strawberry - $3.00
4 - Maple - $3.50
5 - Mint - $2.00
6 - potato - $5.50
Enter a command:
```
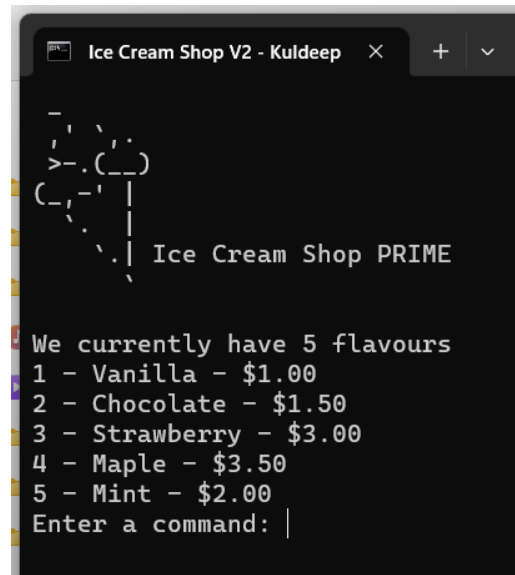
Screenshot 5 – Successful Add command

Context: User had inputted the correct parameter (and corresponding) order for the add command to implement a new flavour, the menu refreshed with the addition of a new flavour as previously inputted.


```
      _
    ,' ' `.
    >-.(__)
   (_,-' |
       `. |
        `.|  Ice Cream Shop PRIME
          `

We currently have 6 flavours
1 - Vanilla - $1.00
2 - Chocolate - $1.50
3 - Strawberry - $3.00
4 - Maple - $3.50
5 - Mint - $2.00
6 - potato - $5.50
Enter a command: del 6
```

```
      _
    ,' ' `.
    >-.(__)
   (_,-' |
       `. |
        `.|  Ice Cream Shop PRIME
          `

We currently have 5 flavours
1 - Vanilla - $1.00
2 - Chocolate - $1.50
3 - Strawberry - $3.00
4 - Maple - $3.50
5 - Mint - $2.00
Enter a command:
```

Screenshot 6 – Successful delete command

Context: User had successfully entered a valid index value ("6") to delete from the listed options, the menu had refreshed to incorporate the new changes.

Screenshot 7 – Successful Sort Name command

Context: User had successfully chosen to sort the list by name. The menu previously was unsorted but after entry, the menu order has clearly changed to be organized from A-Z.

Screenshot 8 – Successful Sort Price Command

Context: User had successfully entered a sort by price command. The menu previously was unsorted but after entry, the menu order has clearly changed to be organized with price from descending order.
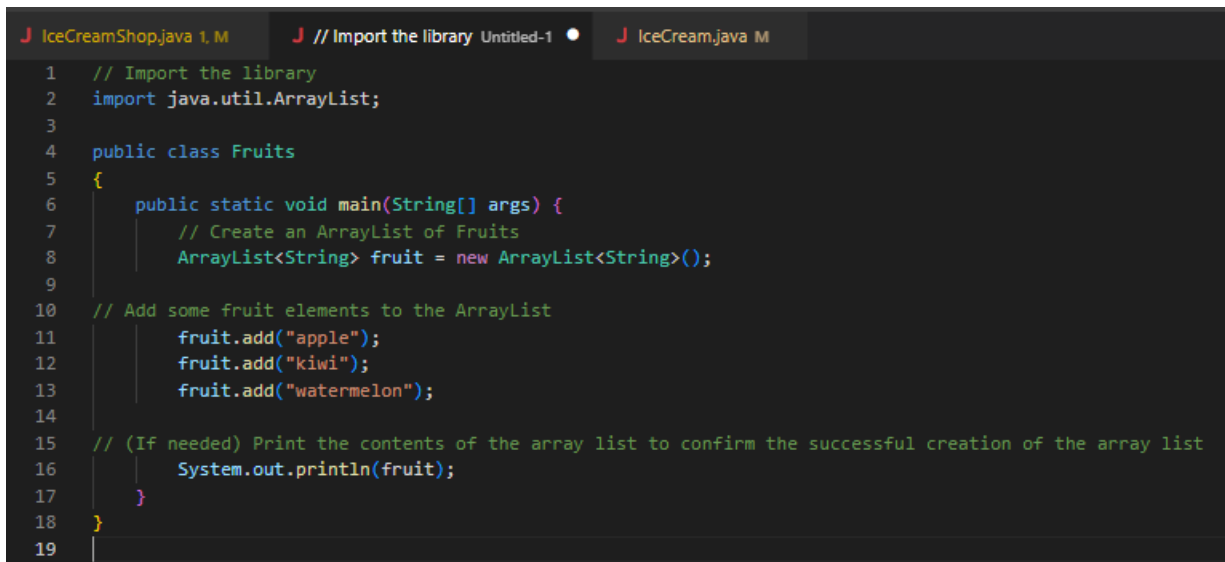
Question 1. Explain 2 main differences between arrays and Arraylist in Java

The most significant differences between arrays and array lists in Java come down to an array's fundamental specifications and restrictions. With arrays, they are of a set-defined size of memory which is determined when the array is declared/created. On the other hand, ArrayList is a dynamic memory size whose size can be manipulated.

The second notable difference between an ArrayList and an array is that an ArrayList can contain unrestricted elements of varying data types (i.e. strings, ints, etc.). While an array is restricted to only holding what it was defined to hold (i.e. doubles, strings, etc.)

Question 2. Show a code example declaring arrayList of Strings named fruit in Java?

```java
// Import the library
import java.util.ArrayList;

public class Fruits
{
    public static void main(String[] args) {
        // Create an ArrayList of Fruits
        ArrayList<String> fruit = new ArrayList<String>();

// Add some fruit elements to the ArrayList
        fruit.add("apple");
        fruit.add("kiwi");
        fruit.add("watermelon");

// (If needed) Print the contents of the array list to confirm the successful creation of the array list
        System.out.println(fruit);
    }
}
```

Code example written in VS Code for Fruits