Class ArrayRecursor

```java
import java.util.Scanner;
public class ArrayRecursor {
    public static int fill(int [] array, Scanner s){
        return fill(array, s, 0);
    }
    private static int fill(int [] array, Scanner s, int start){
        if(start == array.length) return 0;
        System.out.print("Enter a number: ");
        int temp = s.nextInt();
        if(temp == -1)
            return 0;
        else{
            array[start] = temp;
            return 1 + fill(array, s, start+1);
        }
    }
    public static int count(int [] array){
        return count(array, 0);
    }
    private static int count(int [] array, int start){
        if(start == array.length || array[start] == -1)
            return 0;
        else
            return 1 + count(array, start+1);
    }
    public static int sum(int [] array){
        return sum(array, 0);
    }
    private static int sum(int [] array, int start){
        if(start == array.length || array[start] == -1)
            return 0;
        else{
            return array[start] + sum(array, start+1);
        }
    }
    public static void print(int array[]){
        System.out.print("[");
        print(array, 0);
        System.out.println("]");
    }
    private static void print(int array[], int start){
        System.out.print(array[start]);
        if(start + 1 != array.length && array[start+1] != -1){
            System.out.print(", ");
            print(array, start+1);
        }
    }
    public static void printReverse(int array[]){
```

```java
            System.out.print("[");
            printReverse(array, 0);
            System.out.println("]");
    }
    private static void printReverse(int array[], int start){
            if(start + 1 != array.length && array[start+1] != -1){
                    printReverse(array, start+1);
                    System.out.print(", ");
            }
            System.out.print(array[start]);
    }
    public static void main(String [] args){
            Scanner input = new Scanner(System.in);
            int [] array = new int[10];
            for(int i = 0; i < array.length; i++)
                    array[i] = -1;
            int choice = 0;
            do{
                    System.out.println("1) Fill new array.");
                    System.out.println("2) Count elements.");
                    System.out.println("3) Calculate sum of elements.");
                    System.out.println("4) Print the array.");
                    System.out.println("5) Print the array in reverse order");
                    System.out.println("6) Quit.");
                    System.out.print("Enter a choice: ");
                    choice = input.nextInt();
                    switch(choice){
                    case 1:
                            for(int i = 0; i < array.length; i++)
                                    array[i] = -1;
                            fill(array, input);
                            break;
                    case 2:
                    System.out.println("Number of elements: " + count(array));
                            break;
                    case 3:
                            System.out.println("The sum is: " + sum(array));
                            break;
                    case 4:
                            System.out.println("The array is: ");
                            print(array);
                            break;
                    case 5:
                            System.out.println("The array in reverse is: ");
                            printReverse(array);
                    }
            }while(choice != 6);
            System.out.println("Bye!");
    }
}
```

Sample Run

```
1) Fill new array.
2) Count elements.
3) Calculate sum of elements.
4) Print the array.
5) Print the array in reverse order
6) Quit.
Enter a choice: 1
Enter a number: 1
Enter a number: 2
Enter a number: 3
Enter a number: 4
Enter a number: 5
Enter a number: -1
1) Fill new array.
2) Count elements.
3) Calculate sum of elements.
4) Print the array.
5) Print the array in reverse order
6) Quit.
Enter a choice: 2
Number of elements: 5
1) Fill new array.
2) Count elements.
3) Calculate sum of elements.
4) Print the array.
5) Print the array in reverse order
6) Quit.
Enter a choice: 3
The sum is: 15
1) Fill new array.
2) Count elements.
3) Calculate sum of elements.
4) Print the array.
5) Print the array in reverse order
6) Quit.
Enter a choice: 4
The array is:
[1, 2, 3, 4, 5]
1) Fill new array.
2) Count elements.
3) Calculate sum of elements.
4) Print the array.
5) Print the array in reverse order
6) Quit.
Enter a choice: 5
The array in reverse is:
[5, 4, 3, 2, 1]
```