Programs Based on Set Interface

Practical no 03

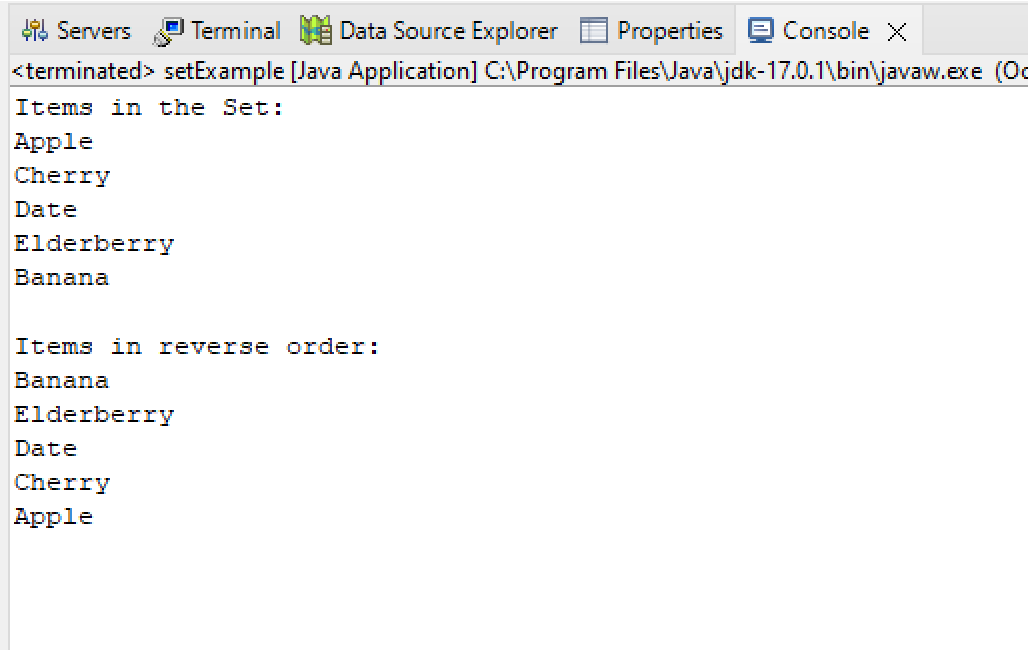
Program no. 01
Aim :- Write a JAVA Program to Create a set containing list of items as type String and print the item in the list using Iterator interface also print the list in Reverse/backward direction

Code:

```
package src;
import java.util.*;
public class setExample {
    public static void main(String[] args) {
        Set <String> itemSet = new HashSet<>();
        itemSet.add("Apple");
        itemSet.add("Banana");
        itemSet.add("Cherry");
        itemSet.add("Date");
        itemSet.add("Elderberry");

        System.out.println("Items in the Set:");
        Iterator<String> iterator = itemSet.iterator();
        while (iterator.hasNext()) {
            System.out.println(iterator.next());
        }

        List<String> itemList = new ArrayList<>(itemSet);

        System.out.println("\nItems in reverse order:");
        for (int i = itemList.size()- 1; i >= 0; i--) {
            System.out.println(itemList.get(i));
        }
    }
}
```

Programs Based on Set Interface

Output:-



<terminated> setExample [Java Application] C:\Program Files\Java\jdk-17.0.1\bin\javaw.exe (Oc

```
Items in the Set:
Apple
Cherry
Date
Elderberry
Banana

Items in reverse order:
Banana
Elderberry
Date
Cherry
Apple
```

Programs Based on Set Interface

Program no. 02
Aim :- Write a JAVA Program to Using set Interface containing list of items and Perform the following operations

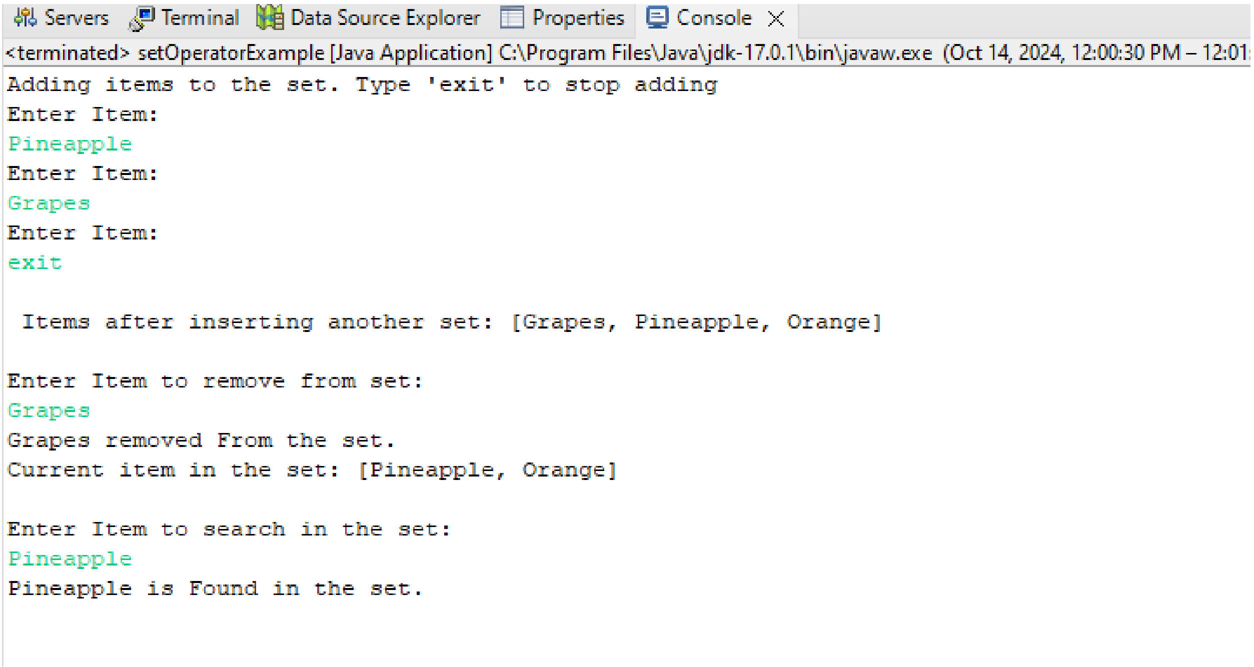
a. Add items in the set
b. Insert Item of on set into other set
c. Remove items form the set
d. Search the specified item in the set

Code:

```
package src;
import java.util.*;
public class setOperatorExample {
    private static final String ItemSet = null;
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        Set <String> itemSet = new HashSet<>();

        System.out.println("Adding items to the set. Type 'exit' to stop adding");

        while(true) {
            System.out.println("Enter Item: ");
            String item = scanner.nextLine();
            if (item.equalsIgnoreCase("exit")) {
                break;
            }
            itemSet.add(item);
        }

        Set <String> anotherSet = new HashSet<>();

        anotherSet.add("Grapes");
        anotherSet.add("Orange");
        anotherSet.add("Pineapple");

        itemSet.addAll(anotherSet);
        System.out.println("\n Items after inserting another set: "+ itemSet);
        System.out.println("\nEnter Item to remove from set: ");
        String itemToRemove = scanner.nextLine();
        if (itemSet.remove(itemToRemove)) {
        System.out.println(itemToRemove + " removed From the set.");
        } else {
```

```
                    System.out.println(itemToRemove + "Item not found in the set.");
                }
                System.out.println("Current item in the set: "+ itemSet);

                System.out.println("\nEnter Item to search in the set: ");
                String itemToSearch = scanner.nextLine();
                if (itemSet.remove(itemToSearch)) {
                System.out.println(itemToSearch + " is Found in the set.");
                } else {
                    System.out.println(itemToSearch + " is not found in the set.");
                }

                scanner.close();
        }
}
```

Output:-



```
<terminated> setOperatorExample [Java Application] C:\Program Files\Java\jdk-17.0.1\bin\javaw.exe  (Oct 14, 2024, 12:00:30 PM – 12:01
Adding items to the set. Type 'exit' to stop adding
Enter Item:
Pineapple
Enter Item:
Grapes
Enter Item:
exit

 Items after inserting another set: [Grapes, Pineapple, Orange]

Enter Item to remove from set:
Grapes
Grapes removed From the set.
Current item in the set: [Pineapple, Orange]

Enter Item to search in the set:
Pineapple
Pineapple is Found in the set.
```