1) Write a Java program to perform the following operations in a HashSet.

a) Append the specified element to the end of a hash set.

b) Iterate through all elements in a hash set.

c) Check wheather a hash set is empty or not

d) Get the number of elements in a hash set.

Source Code

```
import java.util.HashSet;
import java.util.Iterator;
import java.util.Scanner;
public class hashSet{
    public static void main (String[] args){
        boolean flag = true;
        HashSet<Integer> hs = new HashSet<Integer>();
        Scanner inp = new Scanner (System.in)
        do{
            System.out.println ("xxxxxx Menu xxxxxxx");
            System.out.println ("1 - Append an element");
            System.out.println ("2 - Traverse");
            System.out.println ("3 - Check empty");
            System.out.println ("4 - Check size");
            System.out.println ("0 - Exit");
            System.out.println ("Enter your choice :");
            int c = inp.nextInt();
            switch (c) {
                case 1: {
                    System.out.println ("Enter element to be added
                    hs.add (inp.nextInt());
                    break;
```

```
case 2 : {
        Iterator<Integer> iterator = hs.iterator();
        while(iterator.hasNext())
            System.out.println(iterator.next());
        break;
        }
case 3 : {
        if(hs.isEmpty()) System.out.println("Hash set is Empty");
        else System.out.println("Hash Set is not Empty");
        break;
        }
case 4 : {
        System.out.println("Length of hash set is "+hs.size());
        break;
case 0 : {
        System.out.println("BYE...");
        flag = false;
        break;
        }
    } while
  } while(flag);
  sc.close();
 }
}
```

Output

```
****** Menu ******
1 - Append an element
2 - Traverse
3 - Check empty
4 - Check size
0 - Exit
Enter your choice : 3
Hash set is empty
Enter your choice : 1
Enter element to be added :
213
Enter your choice : 1
Enter element to be added :
23
Enter your choice : 1
Enter element to be added :
67
Enter your choice : 4
Length of hash set is 3
Enter your choice : 2
67
213
23
Enter your choice : 0
BYE
```