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package A6;
import java.util.Arrays;
import java.util.Scanner;

/**
 *
 * @author Lakshmi Priya
 */

class GenSort{

    private <T> void swap(T[] a, int i, int j) {
        if (i != j) {
            T temp = a[i];
            a[i] = a[j];
            a[j] = temp;
        }
    }

    public <T extends Comparable<T>> void selectionSort(T[] a) {
        for (int i = 0; i < a.length - 1; i++) {
            int smallest = i;
            for (int j = i + 1; j < a.length; j++) {
                if (a[j].compareTo(a[smallest])<=0) {
                    smallest = j;
                }
            }
            swap(a, i, smallest);
        }
    }


    public static void main(String[] args) {
        int choice=0, capacity, i;
        Scanner in=new Scanner(System.in);

        GenSort obj=new GenSort();

        System.out.print("\nChoice:\n\t1. Integer\n\t2. Float\n\t3.
String\n\t0. Exit\nEnter type of items in array: ");
        choice=in.nextInt();
        while(choice!=0){
            System.out.print("Enter number of items in array: ");
            capacity=in.nextInt();

            switch(choice){
                case 1: Integer iarray[]=new Integer[capacity];
                        for(i=0;i<capacity;i++){
                            System.out.print("Enter item "+(i+1)+":
");
                            iarray[i]=in.nextInt();
                        }

System.out.println("*******************************************")
;
```

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                        System.out.println("Array before sorting
:"+Arrays.toString(iarray));
                        obj.selectionSort(iarray);
                        System.out.println("Array after sorting
:"+Arrays.toString(iarray));

System.out.println("*******************************************")
;
                        break;
                case 2: Float farray[]=new Float[capacity];
                        for(i=0;i<capacity;i++){
                            System.out.print("Enter item"+(i+1)+":
");
                            farray[i]=in.nextFloat();
                        }

System.out.println("*******************************************")
;
                        System.out.println("Array before sorting
:"+Arrays.toString(farray));
                        obj.selectionSort(farray);
                        System.out.println("Array after sorting
:"+Arrays.toString(farray));

System.out.println("*******************************************")
;
                        break;
                case 3: String sarray[]=new String[capacity];
                        in.nextLine();
                        for(i=0;i<capacity;i++){
                            System.out.print("Enter item"+(i+1)+":
");
                            sarray[i]=in.nextLine();
                        }

System.out.println("*******************************************")
;
                        System.out.println("Array before sorting
:"+Arrays.toString(sarray));
                        obj.selectionSort(sarray);
                        System.out.println("Array after sorting
:"+Arrays.toString(sarray));

System.out.println("*******************************************")
;
                        break;
            }
            System.out.print("\nChoice:\n\t1. Integer\n\t2.
Float\n\t3. String\n\t0. Exit\nEnter type of items in array: ");
            choice=in.nextInt();
        }

    }
}
```