NIGER DELTA UNIVERSITY

WILBERFORCE ISLAND, AMASSOMA  
BAYEL SASTATE

FACULTY OF SCIENCE

DEPARTMENT OF COMPUTER SCIENCE

ASSIGNMENT3

COURSE TITLE: ALGORITHM

COURSE CODE: CMP421

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INSERTION OF BUBBLE SORT WITHOUT STOPPING AND WITH STOPPING, INSERTION OF SORT

**Bubble Sort in java without stopping**

class BubbleSort

{

    void bubbleSort(int arr[])

    {

        int n = arr.length;

        for (int i = 0; i < n-1; i++)

            for (int j = 0; j < n-i-1; j++)

                if (arr[j] > arr[j+1])

                {

                    // swap arr[j+1] and arr[j]

                    int temp = arr[j];

                    arr[j] = arr[j+1];

                    arr[j+1] = temp;

                }

    }

    /\* Prints the array \*/

    void printArray(int arr[])

    {

        int n = arr.length;

        for (int i=0; i<n; ++i)

            System.out.print(arr[i] + " ");

        System.out.println();

    }

    // Driver method to test above

    public static void main(String args[])

{

        BubbleSort ob = new BubbleSort();

        int arr[] = {64, 34, 25, 12, 22, 11, 90};

        ob.bubbleSort(arr);

        System.out.println("Sorted array");

        ob.printArray(arr);

    }

}

or

**Bubble sort with stopping**

class BubbleSort {

void bubbleSort(int arr[]) { //sorting method

int size = arr.length;

for (int i = 0; i < size - 1; i++) {

boolean flag = true;

for (int j = 0; j < size - i - 1; j++) {

if (arr[j] > arr[j + 1]) {

int temp = arr[j];

arr[j] = arr[j + 1];

arr[j + 1] = temp;

flag = false;

}

}

if (flag == true)

break;

}

}

void display(int arr[]) { //method for displaying the elements

int size = arr.length;

for (int i = 0; i < size; i++)

System.out.println(arr[i]+" ");

}

public static void main(String args[]) { //main method or driver method

int[] arr = { -2, 45, 0, 11, -9 };

BubbleSort bs = new BubbleSort();

System.out.println("Elements before Sorting:");

bs.display(arr);

bs.bubbleSort(arr);

System.out.println("Elements after Sorting:");

bs.display(arr);

}

}

**Insertion Sort in java**

import java.util.\*;

class InsertionSort {

//method for sorting the elements

void insertionSort(int arr[]) {

int size = arr.length;

for (int i = 1; i < size; i++) {

int tmp = arr[i];

int j = i - 1;

while (j >= 0 && tmp < arr[j]) {

arr[j + 1] = arr[j];

--j;

}

arr[j + 1] = tmp;

}

}

// method for printing the elements

void display(int arr[]) {

int size = arr.length;

for (int i = 0; i < size; i++)

System.out.print(arr[i]+" ");

System.out.println();

} // Main method or driver method

public static void main(String args[]) {

int[] arr = { 9, 5, 1, 4, 3 };

InsertionSort ob = new InsertionSort();

System.out.println("Elements before sorting: ");

ob.display(arr);

ob.insertionSort(arr);

System.out.println("Elements after sorting: ");

ob.display(arr);

}

}

//Output of the program: Elements before sorting: 9 5 1 4 3 Elements after sorting: 1 3 4 5 9