**JOBSHEET 4**

**TUGAS 1**

package Search;

import java.util.Scanner;

import java.util.Random;

public class BinarySearch {

public static void main(String[] args)

{

Random acak = new Random();

int[] data = new int[10];

Scanner baca = new Scanner(System.in);

int i, step, temp, n = data.length;

int low, mid, high, index, flag, cari;

for (i = 0; i < 10; i++)

{

data[i] = acak.nextInt(201);

}

// BUBBLE SHORT

{

for (step = 1; step < n; step++)

{

int swap = 0;

for(i = 0; i < n-step; i++)

{

if(data[i] > data[i+1])

{

temp = data[i];

data[i] = data [i+1];

data[i+1] = temp;

swap = 1;

}

}

}

for(i = 0; i < data.length; i++)

{

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

}

System.out.println("");

// BINARY SEARCH

n = data.length;

low = 0;

high = n - 1;

index = 0;

flag = 0;

System.out.print("Masukkan bilangan yang dicari: ");

cari = baca.nextInt();

while(low <= high)

{

mid = (low + high) / 2;

if(cari == data[mid])

{

flag = 1;

index = mid;

break;

}

else if(cari < data[mid])

{

high = mid - 1;

}

else

{

low = mid + 1;

}

}

if(flag == 1)

System.out.println("Data ditemukan di index ke-" + index);

else

{

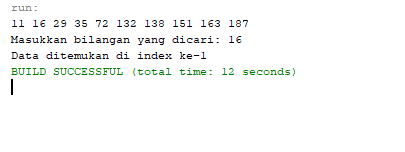
System.out.println(" Data tidak ditemukan " );

}

}

}

}



**TUGAS 2**

package linearsearch;

import java.util.Scanner;

import java.util.Random;

public class Linearsearch {

public static void main(String[] args)

{

Scanner baca = new Scanner(System.in);

Random acak = new Random();

int [] data = new int[10];

int i;

int low, mid, high, index, flag, cari, N;

for (i = 0; i < 10; i++)

{

data[i] = acak.nextInt(201);

}

for (i = 0; i < data.length; i++ )

{

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

}

N = data.length;

low = 0;

high = N-1;

index = 0;

flag = 0;

System.out.println("");

System.out.print("Masukkan bilangan yang di cari: ");

cari = baca.nextInt();

while(low <= high)

{

mid = (low + high / 2);

if(cari == data[mid])

{

flag = 1;

index = mid;

break;

}

else if (cari < data[mid])

{

high = mid-1;

}

else

{

low = mid + 1;

}

}

if(flag == 1)

System.out.println("Data ditemukan di index ke-" + index);

else

System.out.println(" Data tidak ditemukan " );

}

}

