Nama : Yohanes Dimas Pratama

NIM : A11.2021.13254

Kelompok : 4207

Tugas Modul PAP-05

main.cpp

```
#include <iostream>
#include "pustaka.h"

using namespace std;

int main()
{
   //Soal nomor 1
   cout << "Soal nomor 1:" << endl;
   int arr1[] = { 3, 5, 38, 0, 44, 47 };
   compress_array(arr1, 6);
   int arr2[] = { 3, 0, 44, 38, 0, 5, 47 };
   compress_array(arr2, 7);
   int arr3[] = { 2, 15, 0, 0, 0, 26, 27, 36 };
   compress_array(arr3, 8);
   int arr4[] = { 15, 36, 27, 0, 0, 2, 26 };
   compress_array(arr4, 7);
   cout<< endl;

   //Soal nomor 2
   cout << "Soal nomor 2:" << endl;
   int arr5[] = { 3, 44, 38, 5, 47 };
   selection_sort(arr5, 5);
```

```
    cout << endl;
    int arr6[] = { 15, 36, 27, 2, 26 };
    selection_sort(arr6, 5);
    cout << endl;

    //Soal nomor 3
    cout << "Soal nomor 3:" << endl;
    int arr7[] = { 3, 44, 38, 5, 47 };
    int arr8[] = { 15, 36, 27, 2, 26 };
    selection_sort2(arr7, 5);
    cout << endl;
    selection_sort2(arr8, 5);
    cout << endl;

    //Soal nomor 4
    cout << "Soal nomor 4:" << endl;
    int arr9[] = { 3, 44, 38, 5, 47 };
    get_median(arr9, 5);
    cout << "" ;
    int arr10[] = { 15, 36, 27, 2, 26 };
    get_median(arr10, 5);
    cout << endl;
    return 0;
}
```

pustaka.cpp

```
#include <iostream>
#include "pustaka.h"

using namespace std;

//Soal nomor 1
void compress_array(int n[], int size)
{
   for(int i = 0; i < size; i++)
   {
      if(n[i] == 0)
      {
         n[i]= NULL;
      }
      else
      {
         cout << n[i] <<" ";
      }
   }
   cout<< endl;
}

//Soal nomor 2
void selection_sort(int n[], int size)
{
   int i, j ,k , min;
   for(i = 0; i < size; i++)
   {
```

```
        min = i;
        for(j = i+1; j < size; j++)
        {
           if(n[j] < n[min])
           {
              min = j;
           }
        }

        k = n[i];
        n[i] = n[min];
        n[min] = k;

        for(int y=0; y<size; y++)
        {
           cout<< n[y] << " ";
        }
        cout<< endl;
    }
}

//Soal nomor 3
bool is_it_sorted(int data[], int jml_data) {
    bool isSorted = true;
    int temp = 0;

    for (int i=0; i<jml_data+1; i++) {
        if(temp>data[i]) {
            isSorted = false;
```

```
        }
        temp=data[i];
    }

    return isSorted;
}

void selection_sort2(int data[], int jml_data) {
    int i, j, x, y, min, temp;
    x=0;
    bool sorted = true;

    for (i = 0; i < jml_data - 1; i++) {
        min = i;
        for (j = i + 1; j < jml_data; j++) {
            if (data[j] < data[min]) {
                min = j;
            }
        }

        temp = data[i];
        data[i] = data[min];
        data[min] = temp;

        sorted = is_it_sorted(data, jml_data-1);

        if(x==0) {
            for(int i=0;i<jml_data;i++) {
                cout << data[i] << " ";
```

```
        }
        cout << endl;

        if(sorted == true) {
           x=1;
        }
      }
   }
}

//Soal nomor 4
int get_median(int n[], int size)
{
   int i, j, k, min;
   int median;
   int terurut;

   for(int y=0; y < size; y++)
   {
      if(n[y] > n[y+1])
      {
         terurut = false;
      }
      else
      {
         terurut = true;
      }
   }
   if(terurut == 0)
```

```
    {
        for(i = 0; i < size; i++)
        {
            min = i;
            for(j = i+1; j < size; j++)
            {
                if(n[j] < n[min])
                {
                    min = j;
                }
            }
            k = n[i];
            n[i] = n[min];
            n[min] = k;
        }
        cout << n[size / 2] << endl;
    }
    if(terurut == 1)
    {
        cout << n[size / 2] << endl;
    }
}
```

pustaka.h

```
#ifndef PUSTAKA_H_INCLUDED
#define PUSTAKA_H_INCLUDED

//Soal nomor 1
void compress_array(int n[], int size);

//Soal nomor 2
void selection_sort(int n[], int size);

//Soal nomor 3
void selection_sort2(int data[], int jml_data);

//Soal nomor 4
int get_median(int n[], int size);

#endif // PUSTAKA_H_INCLUDED
```

Hasil coding:

```
Soal nomor 1:
3 5 38 44 47
3 44 38 5 47
2 15 26 27 36
15 36 27 2 26

Soal nomor 2:
3 44 38 5 47
3 5 38 44 47
3 5 38 44 47
3 5 38 44 47
3 5 38 44 47

2 36 27 15 26
2 15 27 36 26
2 15 26 36 27
2 15 26 27 36
2 15 26 27 36

Soal nomor 3:
3 44 38 5 47
3 5 38 44 47

2 36 27 15 26
2 15 27 36 26
2 15 26 36 27
2 15 26 27 36

Soal nomor 4:
38
26
```