Ketentuan Tugas Pendahuluan

- **JAWABAN DIKETIK DENGAN RAPIH** dan **SERTAKAN SCREENSHOOT CODINGAN DAN HASIL OUTPUT** untuk soal algoritma
- Jawaban diprint dan ditempel di buku tulis B5 dan sertakan identitas pada cover buku tulis.
- TP ini bersifat **WAJIB, TIDAK MENGERJAKAN BERARTI TIDAK BOLEH MENGIKUTI PRAKTIKUM.**
- **HANYA MENGUMPULKAN TETAPI TIDAK MENGERJAKAN = TIDAK BOLEH MENGIKUTI PRAKTIKUM.**
- **TIDAK BOLEH PRAKTIKUM = TIDAK DIPERKENANKAN DIDALAM RUANG PRAKTIKUM SERTA TIDAK BOLEH TAPPING RFID DAN ABSEN TANDA TANGAN.**
- **BUKU TULIS WAJIB DIBAWA SAAT PRAKTIKUM, TIDAK MEMBAWA BUKU TULIS MAKA TIDAK DIPERBOLEHKAN MENGIKUTI PRAKTIKUM**
- Deadline pengumpulan TP Modul 1 Senin, 27 Januari 2020 pukul 08.03 WIFLAB
- **TIDAK ADA TOLERANSI KETERLAMBATAN, TERLAMBAT ATAU TIDAK MENGUMPULKAN TP ONLINE MAKA DIANGGAP TIDAK MENGERJAKAN**
- **DILARANG PLAGIAT**
- Kerjakan TP dengan jelas agar dapat dimengerti.
- Untuk setiap soal algoritma dibawahnya diberikan comment **NAMA** dan **NIM** seperti dibawah.
- Untuk soal algoritma, setiap nama file harus disertai dengan **NIM** **(Contoh : header_130416XXXX)**
- **NAMA FILE SAAT UPLOAD ONLINE : MODX_NIM_KELAS.rar/pdf**

```
int example (int a, int b) {

  /*

  Name : Ichi Ocha
  NIM : 1301123456

  */
```

HOME WORK - MODULE 01

REMEMBER, DO THIS YOURSELF

PROGRAMMING IS NOT A SKILL THAT YOU CAN JUST READ AND MAGICALLY BE ABLE TO DO IT

PROGRAMMING AND LOGIC IS ALL ABOUT PRACTICE

What to do

1. Install codeblock
2. Create a c++ console project
3. Add new Header file, and name it hello.h
4. Add new C/C++ Source file, and name it hello.cpp
5. Write the codes below in hello.h file

hello.h

```
1   #ifndef HELLO_H_INCLUDED
2   #define HELLO_H_INCLUDED
3
4   #include <iostream>
5   #include <cstdlib>
6
7   using namespace std;
8
9   void greetings(string x, string y);
10  void swap_1(int a, int b, int c);
11  void swap_2(int a, int &b, int &c);
12  void confused();
13  void remove_inside(int);
14  string indexing(double, double, double);
15  #endif // HELLO_H_INCLUDED
16
```

6. Write the codes below in hello.cpp file

hello.cpp

```
#include "hello.h"

void greetings(string x, string y) {
    if(y.length() != 10) {
        cout<<"wrong input"<<endl;
    } else {
        if(y.substr(0,2)=="13") {
            cout<<"hello "<<x<<" from School of Computing."<<endl;
            cout<<"you are majoring in ";
//            int z = static_cast<int>(y[3])-48;
            const char *p = y.substr(3,1).c_str();
            int z = atoi(p);
            switch (z) {
            case 1 :
                cout<<"Informatics";
                break;
            case 2 :
                cout<<"Computation Science";
                break;
            case 3 :
                cout<<"Information Technology";
                break;
            default:
                cout<<"..., where again?";
            }
            cout<<endl;
            cout<<"and you're the ";
            string n = y.substr(6,4);
            if(n[3]=='1') {
                cout<<n<<"st";
            } else if(n[3]=='2') {
                cout<<n<<"nd";
            } else {
                cout<<n<<"th";
            }
            cout<<" student listed in this major"<<endl;
            cout<<"in "<<"20"+y.substr(4,2)<<endl;
        } else {
            cout<<"hello, you're not from School of Computing, "
            <<"are you?"<<endl;
        }
    }
}
```

hello.cpp

```
44
45  void swap_1(int a, int b, int c) {
46      c = b;
47      b = a;
48      a = c * b++;
49  }
50
51  void swap_2(int a, int &b, int &c) {
52      c = b;
53      b = a;
54      a = c * b++;
55  }
56
57  void confused() {
58      int x1 = 5;
59      int x2 = 5;
60      int x3 = 5;
61
62      int *pA;
63      int *pB;
64      int *pC;
65      int *pD;
66      int *pE;
67
68      pA = &x1;
69      pB = &x2;
70      pC = pB;
71      pD = pC;
72      pE = pB;
73      pB = &x3;
74      *pD = 10;
75      pC = &x1;
76      *pE = x2 - *pA;
77      cout<<"pA = "<<*pA <<", pB = "<<*pB <<", pC = "
78      <<*pC <<", pD = "<<*pD <<", pE = "<<*pE<<endl;
79  }
```

hello.cpp

```
80
81  void remove_inside(int x) {
82      cout<<"removing index "<<x<<endl;
83      int arr[] = {4,6,7,9,4,6,8,4,2,2,5,8,0,4};
84      int n = sizeof(arr)/sizeof(arr[0]);
85      for (int i = 0; i<n; i++) {
86          cout<<arr[i]<<", ";
87      }
88      cout<<endl;
89
90      if(x>0&&x<n) {
91          while(x<n) {
92              arr[x++] = arr[x];
93          }
94          n--;
95          for (int i = 0; i<n; i++) {
96              cout<<arr[i]<<", ";
97          }
98          cout<<endl;
99      } else {
100         cout<<"wrong input"<<endl;
101     }
102 }
103
104 string indexing(double x, double y, double z) {
105     double t = x*.4 + y*.35 + z*.25;
106     if(t > 80)
107         return "A";
108     if(t > 75)
109         return "AB";
110     if(t > 70)
111         return "B";
112     if(t > 60)
113         return "BC";
114     if(t > 50)
115         return "C";
116     if(t > 40)
117         return "D";
118     return "E";
119 }
```

7. Write the codes below in main.cpp file
   Modify the codes according to the instruction on the image

main.cpp

```
#include "hello.h"

int main() {
    cout<<"Test procedure Greeting"<<endl;
    string name = "xx"; /** <-- Change this to your name*/
    string id = "xx";   /** <-- Change this to your student id (NIM)*/
    greetings(name, id);
    cout<<"please answer Question 1"<<endl<<endl;

    cout<<"Test procedure swap_1 and swap_2"<<endl;
    int a = 15;
    int b = 30;
    int c = 75;
    swap_1(a,b,c);
    cout<<"a = "<<a<<", b = "<<b<<", c = "<<c<<endl;
    a = 15;
    b = 30;
    c = 75;
    swap_2(a,b,c);
    cout<<"a = "<<a<<", b = "<<b<<", c = "<<c<<endl;
    cout<<"please answer Question 2"<<endl<<endl;


    cout<<"Test procedure confused"<<endl;
    confused();
    cout<<"please answer Question 3"<<endl<<endl;

    cout<<"Test procedure remove inside"<<endl;
    remove_inside(5);
    cout<<"please answer Question 4"<<endl<<endl;

    cout<<"Test procedure indexing"<<endl;
    cout<<"example 1 : "<<indexing(70, 75, 60)<<endl;
    cout<<"example 2 : "<<indexing(45, 70, 50)<<endl;
    cout<<"example 3 : "<<indexing(75, 80, 82)<<endl;
    cout<<"please answer Question 5"<<endl<<endl;

    return 0;
}
```

8. Run your project, and observe the results
9. Read carefully the questions below, then write down the answer in your answer book

Questions

1. Define and explain what did the procedure greetings do? What kind of process happen inside it?
2. Explain what happen inside procedure swap_1 and swap_2, and explain why the result is different!
3. From procedure confused, write down which variable (x1, x2, or x3) each pointer pA, pB, pC, pD, and pE is pointing?
4. Explain what happen inside procedure remove_inside! Write the detailed process of each process!
5. Explain what happen inside procedure indexing! Write the detailed process of each process!