


Soal Praktikum <i>Practicum Case</i>	
COMP6360 Algorithm and Programming	
Teknik Informatika <i>Computer Science</i>	CS-COMP6360-Var01
Periode Berlaku Mulai Semester Ganjil 2018/2019 Valid on Odd Semester Year Ganjil 2018/2019	Revisi 00 Revision 00

Learning Outcomes

- Write a program in C language in problem solving

Topic

- Session 10 – Searching

Sub Topics

- Read data from file
- Write data to file

Soal

Case

- To develop more feature, ITK Binus Malang want to add searching on SIM that already used, please help them to develop those requirement.
- To make development easy, temporary all data will saved on “**mahasiswa.txt**”, load all data each your program executed
- “**Sistem Informasi Mahasiswa**” program have 4 menu, which
 - Tampilkan data mahasiswa
With this menu, all student data will shown
 - Input data Mahasiswa
This menu will add licence number data, registration data will randomize as capture on below
 - Edit data mahasiswa
This menu use for editing mismatch data that already saved
 - Urutkan data mahasiswa
To help data arrangement, please provide menu to sort data by expired date or by registration number
 - Save and exit
With these menu, program will save all your with data saved on “**Samsat.txt**”, after save successfull program will exit

Please run the EXE file to see the sample program.

Print Screen of Main Program

```
Sistem Informasi Mahasiswa
=====
1. Tampil Data Mahasiswa
2. Input Data Mahasiswa
3. Edit Data Mahasiswa
3. Urutkan Data Mahasiswa
4. keluar
masukkan menu [1-5] : █
```

Print Screen of menu no 1

- If there is no data will show error message as below

```
=====
| NIM          | Jurusan          | Nama Mahasiswa    | Tgl Lahir |
=====
| 202241869 | 1 | Informatics | julian alimin | 01/07/1992 |
| 202297339 | 1 | Informatics | kodomo        | 08/12/1995 |
| 202239430 | 1 | Informatics | farid         | 09/12/1995 |
| 202242369 | 3 | Design Interior | si komo      | 06/02/1999 |
=====
tidak ada data
tekan ENTER untuk melanjutkan....█
```

- If there is data, program will show data saved on text file

```
=====
| NIM          | Jurusan          | Nama Mahasiswa    | Tgl Lahir |
=====
| 202286483 | Informatics      | julian alimin    | 01/07/1992 |
| 202241869 | Informatics      | kodomo           | 08/12/1995 |
| 202297339 | Informatics      | farid            | 09/12/1995 |
| 202239430 | Design Interior  | julius nova      | 03/02/1997 |
| 202242369 | Design Visual    | si komo          | 06/02/1999 |
=====
tekan ENTER untuk melanjutkan....█
```

Print Screen of menu no 2

User can insert data as below

```
5masukkan nama [maks 20 karakter] : Bunga
masukkan tahun lahir [1990-2000] : 1999
masukkan bulan lahir [1-12] : 2
masukkan tanggal lahir [1-28] : 14
tekan ENTER untuk melanjutkan....
```

For NIM and jurusan data will generate randomly, NIM must consist 9 digit of number from 202200000 through 202299999 . To standarize code for jurusan, we can use data as below

Kode Jurusan	Nama Jurusan
1	Informatics
2	Business Creation
3	Design Visual
4	Design Interior
5	Public Relation

```
=====
| NIM          | Jurusan          | Nama Mahasiswa    | Tgl Lahir |
=====
| 202286483    | Informatics       | julian alimin     | 01/07/1992 |
| 202241869    | Informatics       | kodomo             | 08/12/1995 |
| 202297339    | Informatics       | farid              | 09/12/1995 |
| 202239430    | Design Interior   | julius nova        | 03/02/1997 |
| 202242369    | Design Visual     | si komo            | 06/02/1999 |
| 202221243    | Public Relation   | Bunga              | 14/02/1999 |
=====
tekan ENTER untuk melanjutkan....
```

Print Screen of menu no 3

For menu no 3, search is based on NIM

- If there is no data then user forced to input the correct one

```
silahkan masukkan NIM [9 angka] : 1234
silahkan masukkan NIM [9 angka] : 123456789
silahkan masukkan NIM [9 angka] : █
```

- While data found, user can continue edit data

```
silahkan masukkan NIM [9 angka] : 202239430
masukkan nama [maks 20 karakter] : Nova
masukkan tahun lahir [1990=2000] : 1997
masukkan bulan lahir [1-12] : 3
masukkan tanggal lahir [1-31] : 2
tekan ENTER untuk melanjutkan...█
```

To verify please use menu no 1

NIM	Jurusan	Nama Mahasiswa	Tgl Lahir
202286483	Informatics	julian alimin	01/07/1992
202241869	Informatics	kodomo	08/12/1995
202297339	Informatics	farid	09/12/1995
202239430	Design Interior	Nova	02/03/1997
202242369	Design Visual	si komo	06/02/1999

tekan ENTER untuk melanjutkan...█

Print Screen of menu no 4

Sorting menu divide into 2 submenu, sort by NIM or sort by Date

```
1. urutkan berdasarkan NIM
2. urutkan berdasarkan tanggal

masukkan pilihan [1-2] : █
```

If sorting is succeed, program will notify as below

```
1. urutkan berdasarkan NIM
2. urutkan berdasarkan tanggal

masukkan pilihan [1-2] : 1
data sudah terurut
tekan ENTER untuk melanjutkan....█
```

To verify data that already sort, please use menu no 1

NIM	Jurusan	Nama Mahasiswa	Tgl Lahir
202221243	Public Relation	Bunga	14/02/1999
202239430	Design Interior	julius nova	03/02/1997
202241869	Informatics	kodomo	08/12/1995
202242369	Design Visual	si komo	06/02/1999
202286483	Informatics	julian alimin	01/07/1992
202297339	Informatics	farid	09/12/1995

tekan ENTER untuk melanjutkan....█

Print Screen of menu no 5

- With menu number 5, program will save and exit