

STUDI KASUS DAN KEGIATAN PRAKTIKUM 2

Nama : Arif Sa'banna Hasibuan

NIM : 2100018469

Kelas : J

1. Screenshot repository hasil Studi Kasus dan cantumkan link repositorynya:

- Screenshot repository hasil studi kasus:

a. Hasil upload repo:

The screenshot shows a GitHub repository page for 'arif2100018469-Studi-Kasus-Alpro' by user 'Arifhasibuan0101'. The repository is public and has 1 star, 1 watching, and 0 forks. It contains 1 branch (master) and 0 tags. The file list shows 'pertemuan 1' and 'pertemuan 2', both containing 'file studi kasus'. A 'Add a README' button is visible. The 'Releases' and 'Packages' sections show no published items. The second screenshot shows the file 'studikasus2.cpp' in the 'pertemuan 2' directory, which is 61 lines (51 sloc) and 2.37 KB. The code is in C++ and includes headers for iostream, string, and iomanip. It defines a main function that declares variables for purchase amount, discount, total, return amount, item name, and item price. It then prompts the user to enter the purchase amount and item name, and calculates the total price with a 10% discount.

```
1 #include <iostream>
2 #include <string>
3 #include <iomanip>
4 using namespace std;
5
6 int main() {
7     // Mendeklarasikan variabel
8     int jml_beli, bayar, diskon, tot, kembalian, jmlhrg[50], hrgbrg[50], subttl[50];
9     string nama_brg[50];
10
11     cout<<"++++++<end>";
12     cout<<"| O.O MINIMARKET |<end>";
13     cout<<"++++++<end>";
14     cout<<" Masukan Jumlah Beli : ";
15     cin>>jml_beli; // Pengguna memasukkan jumlah beli
16
17     for (int i=0; i < jml_beli; i++){
18         cout<<endl;
19         cout<<" Masukan Barang Ke-"<<i+1<<endl;
20         cout<<" Nama Barang\t\t: ";
21         cin.ignore(); // untuk memungkinkan pengguna menginput space/spasi
22     }
```

b. Hasil kodingan studi kasus:

```

1 #include <iostream>
2 #include <string>
3 #include <iomanip>
4 using namespace std;
5
6 int main() {
7     // Mendeklarasikan variabel
8     int jml_beli, bayar, diskon, tot, kembalian, jmlhrg[50], hrgbrg[50], subttl[50];
9     string nama_brg[50];
10
11     cout<<"*****"<<endl;
12     cout<<"|          0.0 MINIMARKET          |"<<endl;
13     cout<<"*****\n"<<endl;
14     cout<<" Masukan Jumlah Beli : ";
15     cin>>jml_beli; // Pengguna memasukkan jumlah beli
16
17     for (int i=0; i < jml_beli; i++){
18         cout<<endl;
19         cout<<" Masukan Barang Ke-"<

```

The screenshot shows a C++ IDE with the following components:

- Top Bar:** Displays file statistics: 46 Col, 78 Set, 0 Lines, 61 Length, 2483 Insert, Done parsing in 0,016 seconds.
- Menu Bar:** File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help.
- Toolbar:** Contains icons for file operations, editing, and execution.
- Editor:** Shows the source code for 'studiokasus2.cpp'. The code is a C++ program for a mini-market simulation.
- Output Window:** Displays the execution output of 'D:\Studi Kasus Alpro\pertemuan 2\studiokasus2.exe'. It shows the program's logic for calculating the total bill.

Source Code (studiokasus2.cpp):

```
1 #include <iostream>
2 #include <string>
3 #include <climits>
4 using namespace std;
5
6 int main() {
7     // Mendeklarasikan variabel
8     int jml_beli, bayar, diskon, tot, kembalian, jmlhrg[50], hrgb[50];
9     string nama_brg[50];
10
11     cout<<"++++++ O.O MINIMARKET ++++++"<<endl;
12     cout<<"|                               |"<<endl;
13     cout<<"++++++ Masukan Jumlah Beli : ++++++"<<endl;
14     cin>>jml_beli; // Pengguna memasukkan jumlah beli
15
16     for (int i=0; i < jml_beli; i++){
17         cout<<endl;
18         cout<<" Masukan Barang Ke-"<<i+1<<endl;
19         cout<<" Nama Barang\t\t: ";
20         cin.ignore(); // untuk menunggu pengguna menginput spasi
21         getline(cin, nama_brg[i], '\n'); // Pengguna input nama barang
22
23         cout<<" Jumlah Barang (satuan)\t: ";
24         cin>>jmlhrg[i]; // Pengguna input jumlah disimpan pada array
25
26         cout<<" Harga Barang (satuan)\t: ";
27         cin>>hrgb[i]; // Pengguna input harga disimpan pada array
28
29         subttl[i]=jmlhrg[i]*hrgb[i]; // Menjumlahkan Harga sub
30         tot+=subttl[i]; // Menjumlahkan seluruh sub total barang
31     }
32
33     cout<<endl;
34     cout<<"===== Rp. =====<<endl;
35     cout<<"Jumlah Bayar\t\t: Rp. "<<tot<<endl;
36     cout<<"Serahkan tunai pembayaran\t: Rp. ";
37     cin>>bayar;
38
39     system("cls");
```

Output Window (D:\Studi Kasus Alpro\pertemuan 2\studiokasus2.exe):

```
++++++ O.O MINIMARKET ++++++
|                               |
++++++ Masukan Jumlah Beli : ++++++
Masukan Jumlah Beli : 4

Masukan Barang Ke-1
Nama Barang           : Shampoo Dove
Jumlah Barang (satuan) : 1
Harga Barang (satuan)  : 22000

Masukan Barang Ke-2
Nama Barang           : Pena Kenko
Jumlah Barang (satuan) : 2
Harga Barang (satuan)  : 5000

Masukan Barang Ke-3
Nama Barang           : Buku Big Boss
Jumlah Barang (satuan) : 2
Harga Barang (satuan)  : 5000

Masukan Barang Ke-4
Nama Barang           : Sabun Lux
Jumlah Barang (satuan) : 2
Harga Barang (satuan)  : 2500

=====
Jumlah Bayar           : Rp. 47000
Serahkan tunai pembayaran : Rp. 100000
```

```
1 #include <iostream>
2 #include <string>
3 #include <iomanip>
4 using namespace std;
5
6 int main() {
7     // Mendeklarasikan variabel
8     int jml_beli, bayar, diskon, tot, kembalian, jmlhrg[50], hrg[50];
9     string nama_brg[50];
10
11     cout<<"*****"<<endl;
12     cout<<"0.0 MARKET" <<endl;
13     cout<<"*****"<<endl;
14     cout<<"Masukan Jumlah Beli : ";
15     cin>>jml_beli; // Pengguna memasukan jumlah beli
16
17     for (int i=0; i < jml_beli; i++){
18         cout<<endl;
19         cout<<"Masukan Barang Ke- "<<i+1<<endl;
20         cout<<"Nama Barang\t\t: ";
21         cin.ignore(); // untuk menunggu pengguna menginput space
22         getline(cin, nama_brg[i], '\n'); // Pengguna input nama barang
23
24         cout<<"Jumlah Barang (satuan)\t: ";
25         cin>>jmlhrg[i]; // Pengguna input jumlah disimpan pada array
26
27         cout<<"Harga Barang (satuan)\t: ";
28         cin>>hrghrg[i]; // Pengguna input harga disimpan pada array
29
30         subttl[i]=jmlhrg[i]*hrghrg[i]; // Menjumlahkan Harga sub
31         tot+=subttl[i]; // Menjumlahkan seluruh sub total barang
32     }
33     cout<<endl;
34     cout<<"*****"<<endl;
35     cout<<"Jumlah Bayar\t\t\t: Rp."<<tot<<endl;
36     cout<<"Serahkan tunai pembayaran\t: Rp.";
37     cin>>bayar;
38
39     system("cls");
40 }
```

NOTA

No.	Nama Barang	Jumlah	Harga	Jumlah
1	Shampo Dove	1	22000	22000
2	Pena Kenko	2	5000	10000
3	Buku Big Boss	2	5000	10000
4	Sabun Lux	2	2500	5000

Jumlah Bayar : Rp.47000
Total Bayar : Rp.47000
Tunai : Rp.100000
Kembali : Rp.53000

TERIMA KASIH<3

Process exited after 229.8 seconds with return value 0
Press any key to continue . . .

c. Link repository

- Github: <https://github.com/Arifhasibuan0101/arif2100018469-Studi-Kasus-Alpro/tree/master/pertemuan%202>
- YT: <https://youtu.be/WjfuqdYN-Js>

2. Screenshot hasil kegiatan praktikum:

- ketik dan jalankan program membilang.cpp di bawah ini. Program ini mengkonversi bilangan 1 sampai dengan 11 menjadi kalimat. Amati cara kerjanya.

```
1 #include <iostream>
2 #include <conio.h>
3
4 using namespace std;
5
6 class konversi {
7     friend ostream& operator<>(ostream&, konversi&);
8     public:
9         konversi(unsigned int b=0){bilangan=b;}
10        void membilang ();
11        private:
12            unsigned int bilangan;
13
14        istream& operator<>(istream& in, konversi& x){
15            cout<<"Masukkan bilangan : ";
16            in>>bilangan;
17            return in;
18        }
19
20        void konversi::membilang(){
21            switch (bilangan){
22                case 0 : cout<<"nol"; break;
23                case 1 : cout<<"satu"; break;
24                case 2 : cout<<"dua"; break;
25                case 3 : cout<<"tiga"; break;
26                case 4 : cout<<"empat"; break;
27                case 5 : cout<<"lima"; break;
28                case 6 : cout<<"enam"; break;
29                case 7 : cout<<"tujuh"; break;
30                case 8 : cout<<"delapan"; break;
31                case 9 : cout<<"sembilan"; break;
32                case 10 : cout<<"sepuluh"; break;
33                case 11 : cout<<"sebelas"; break;
34                default : cout<<"di luar range\n";
35            }
36        }
37
38        int main (){
39            konversi a;
40            cin>>a;
41            a.membilang();
42            getch();
43        }
44 }
```

The screenshot shows an IDE window titled "D:\PRAKTIKUM SEMESTER 2\ALGORITMA PEMROGRAMAN\Kegiatan (Langkah)\pertemuan 2\membilang.cpp - [Executing] - Embarcadero Dev-C++ 6.3". The code in "membilang.cpp" defines a class "konversi" with a public method "membilang()" that takes an unsigned integer "bilangan" and returns a string. The method uses a switch statement to convert numbers 0-11 to Indonesian words: nol, satu, dua, tiga, empat, lima, enam, delapan, sembilan, sepuluh, and sebelas. The main function calls "konversi a;" and "a.membilang();" after reading an input "a". The output window shows the execution results: "Masukkan bilangan : 8", "delapan", and "Process exited after 6.326 seconds with return value 0".

```
1 #include <iostream>
2 #include <conio.h>
3
4 using namespace std;
5 class konversi {
6     friend istream& operator>>(istream&, konversi&);
7 public:
8     konversi(unsigned int b=0){bilangan=b;}
9     void membilang ();
10 private:
11     unsigned int bilangan;
12 };
13 istream& operator>>(istream& in, konversi& x){
14     cout<<"Masukkan bilangan : ";
15     in>>x.bilangan;
16     return in;
17 }
18 void konversi::membilang(){
19     switch (bilangan){
20         case 0 : cout<<"nol"; break;
21         case 1 : cout<<"satu"; break;
22         case 2 : cout<<"dua"; break;
23         case 3 : cout<<"tiga"; break;
24         case 4 : cout<<"empat"; break;
25         case 5 : cout<<"lima"; break;
26         case 6 : cout<<"enam"; break;
27         case 7 : cout<<"tujuh"; break;
28         case 8 : cout<<"delapan"; break;
29         case 9 : cout<<"sembilan"; break;
30         case 10 : cout<<"sepuluh"; break;
31         case 11 : cout<<"sebelas"; break;
32         default : cout<<"di luar range\n";
33     }
34 }
35 int main (){
36     konversi a;
37     cin>>a;
38     a.membilang();
39     getch();
40 }
```

Line: 37 Col: 12 Sel: 0 Lines: 41 Length: 939 Insert Done parsing in 6,438 seconds

Namun adakalanya kita juga ingin membilang dengan bilangan yang melebihi 11. Programnya ditunjukkan pada program berikut. Program ini dapat mengkonversi hingga angka 99. Namakan program ini dengan membilang2.cpp.

The screenshot shows an IDE window titled "D:\PRAKTIKUM SEMESTER 2\ALGORITMA PEMROGRAMAN\Kegiatan (Langkah)\pertemuan 2\membilang2.cpp - [Executing] - Embarcadero Dev-C++ 6.3". The code in "membilang2.cpp" defines a class "konversi" with public methods "membilang1()", "membilang2()", "membilang3()", and "konversikan()". The "konversikan()" method uses a recursive approach to convert numbers up to 99. It checks if the number is less than 10, between 10 and 19, or greater than 19, and then calls the appropriate method. The "membilang1()" method uses a switch statement for numbers 0-1. The main function calls "konversi a;" and "a.membilang();" after reading an input "a".

```
1 #include <iostream>
2 #include <conio.h>
3
4 using namespace std;
5 class konversi {
6     friend istream& operator>>(istream&, konversi&);
7 public:
8     konversi(unsigned int b=0){bilangan=b;}
9     void membilang1 ();
10    void membilang2 ();
11    void membilang3 ();
12    void konversikan ();
13 private:
14    unsigned int bilangan;
15 };
16 istream& operator>>(istream& in, konversi& x){
17     cout<<"masukkan bilangan : ";
18     in>>x.bilangan;
19     return in;
20 }
21 void konversi::konversikan(){
22     if (bilangan<10)membilang1 ();
23     else if (bilangan<20)membilang3 ();
24     else membilang2 ();
25 }
26 void konversi::membilang3(){
27     int satuan;
28     if (bilangan>19){
29         satuan=bilangan%10;
30         bilangan=bilangan/10;
31         konversikan ();
32         cout<<" puluh";
33         bilangan=satuan;
34         konversikan();
35     }
36 }
37 void konversi::membilang1 (){
38     switch (bilangan){
39         case 0 : cout<<" nol"; break;
40         case 1 : cout<<" satu"; break;
```

```
41         case 2 : cout<<" dua"; break;
42         case 3 : cout<<" tiga"; break;
43         case 4 : cout<<" empat"; break;
44         case 5 : cout<<" lima"; break;
45         case 6 : cout<<" enam"; break;
46         case 7 : cout<<" tujuh"; break;
47         case 8 : cout<<" delapan"; break;
48         case 9 : cout<<" sembilan"; break;
49         case 10 : cout<<" sepuluh"; break;
50         case 11: cout<<" sebelas"; break;
51         default : cout<<" di luar range\n";
52     }
53 }
54 void konversi::membilang2(){
55     int temp;
56     if(bilangan>11){
57         bilanganK10;
58         membilang1 ();
59         cout<<" belas";
60     }
61 }
62 int main (){
63     konversi a;
64     cin>>a;
65     a.konversikan();
66     getch ();
67 }
68
```

Line: 56 Col: 21 Sel: 0 Lines: 68 Length: 1467 Insert Done parsing in 0,047 seconds

D:\PRAKTIKUM SEMESTER 2\ALGORITMA PEMROGRAMAN\Kegiatan (Langkah)\pertemuan 2\membilang2.cpp - [Executing] - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Profiling

Project Cl (globals)

membilang.cpp x membilang2.cpp x

```
29 satuan=bilanganK10;
30 bilangan=bilangan/10;
31 konversikan ();
32 cout<<" puluh";
33 bilangan=satuan;
34 konversikan();
35 }
36 }
37 void konversi::membilang1 (){
38     switch (bilangan){
39         case 0 : cout<<" nol"; break;
40         case 1 : cout<<" satu"; break;
41         case 2 : cout<<" dua"; break;
42         case 3 : cout<<" tiga"; break;
43         case 4 : cout<<" empat"; break;
44         case 5 : cout<<" lima"; break;
45         case 6 : cout<<" enam"; break;
46         case 7 : cout<<" tujuh"; break;
47         case 8 : cout<<" delapan"; break;
48         case 9 : cout<<" sembilan"; break;
49         case 10 : cout<<" sepuluh"; break;
50         case 11: cout<<" sebelas"; break;
51         default : cout<<" di luar range\n";
52     }
53 }
54 void konversi::membilang2(){
55     int temp;
56     if(bilangan>11){
57         bilanganK10;
58         membilang1 ();
59         cout<<" belas";
60     }
61 }
62 int main (){
63     konversi a;
64     cin>>a;
65     a.konversikan();
66     getch ();
67 }
68
```

Line: 56 Col: 21 Sel: 0 Lines: 68 Length: 1467 Insert Done parsing in 0,047 seconds

D:\PRAKTIKUM SEMESTER 2\ALGORITMA PEMROGRAMAN\Kegiatan (Langkah)\pertemuan 2\membilang2.cpp - [Executing] - Embarcadero Dev-C++ 6.3

masukkan bilangan : 22
dua puluh dua

Process exited after 7.55 seconds with return value 0
Press any key to continue . . .