

**LAPORAN PRAKTIKUM
ALGORITMA DAN STRUKTUR DATA
PERTEMUAN-09 ULANGAN TENGAH SEMESTER (UTS)**



DISUSUN OLEH :

DWI SEPTA SATRIA AGUNG
NIM. 2341760033

**PROGRAM STUDI D-IV SISTEM INFORMASI BISNIS
JURUSAN TEKNOLOGI INFORMASI
POLITEKNIK NEGERI MALANG
MALANG
2024**

Buatlah sebuah sistem informasi perbankan yang terdiri 2 class, yaitu Rekening dan Transaksi.

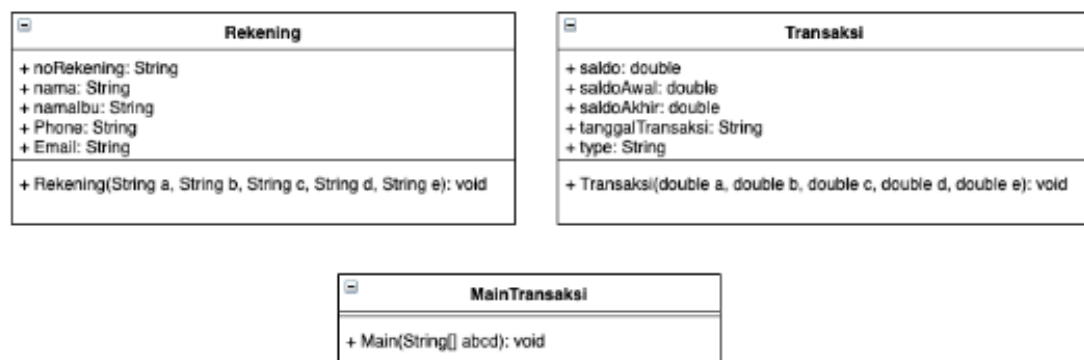
Pada sistem informasi tersebut dapat **menginputkan** data, **menampilkan** data, **mengurutkan data kriteria tertentu**, dan **mencari** data.

Untuk lebih jelasnya perhatikan class diagram dan output dari program tersebut.

Silahkan menggunakan data yang telah disertakan.

Catatan: Untuk tampilan dan class diagram boleh dimodifikasi atau ditambahkan tetapi tidak boleh dikurangi.

Class Diagram:



Data:

No Rekening, Nama, Nama Ibu, Phone, Email

16030927 3084,Wallace,Chase Castro,1-458-264-3263,ligula.Nullam@tacitisociosqu.
16100617 0573,Darius,Julian Daniel,1-357-843-0547,nec@lectusjusto.org
16240401 2243,Fuller,Finn Dunlap,571-7062,convallis@Vestibulumanteipsum.org
16270525 0112,Malcolm,Keane Floyd,623-0234,porttitor.tellus.non@Curabitur.ca
16971204 2416,Geoffrey,Stephen Pratt,1-683-416-8323,ut.pellentesque@luctusutpel
16100727 8862,Rudyard,Charles Morales,650-5379,Proin.eget@velitegestaslacinia.c
16460329 4259,Troy,Damon Guerra,897-7608,pede.Suspendisse.dui@a.ca
16320421 3437,Alec,Cooper Lee,792-4447,non@mus.com
16180729 7229,Walter,Seth Drake,863-8209,Pellentesque.ut.ipsu@neque.ca
16950313 6823,Simon,Burton Gates,592-6919,tellus.justo.sit@commodoauator.net
16850708 3528,Kamal,Odysseus Salas,1-115-339-7678,dictum@nec.edu
16080205 9329,Xenos,Colin Curry,1-891-703-2664,vel@ullamcorpermagna.co.uk
16080628 2695,Merritt,Clarke Roman,1-978-632-5110,Aliquam.gravida@vestibulumMau
16130909 2979,Ryder,Joel Cunningham,817-1766,interdum.Curabitur.dictum@rutrumur
16890212 8688,Preston,Brock Schroeder,1-675-400-4501,et.ultrices@a.co.uk
16141008 9963,Alec,Baker Barton,527-9085,ut@aultriciesadipiscing.ca
16511222 7763,Price,Ashton Burke,1-564-419-4285,Proin.velit@Duisac.net
16720623 0943,Devin,Slade Flores,977-6690,ac@nibhAliquamornare.com
16771126 7372,Ignatius,Lionel Kane,353-5137,cubilia.Curae.Phasellus@Duis.com

```
Saldo, Saldo Awal, Saldo Akhir, Tanggal Transaksi
898214,494048,3587,2021-03-09 07:54:42
205420,200162,775880,2021-06-25 10:23:00
838632,350929,328316,2021-09-18 23:00:04
230659,204434,690503,2022-02-02 19:10:34
770592,334245,444267,2020-08-11 13:36:56
685302,451002,376442,2020-05-23 07:34:53
816129,851403,597842,2021-07-18 19:41:20
989609,333823,802752,2022-02-01 01:13:11
297103,396116,779589,2021-07-03 01:09:49
66190,259150,619774,2021-09-09 03:57:30
234301,278309,547922,2021-08-24 13:18:39
243306,869468,50283,2021-03-12 03:40:16
371045,991242,602034,2021-08-06 11:48:59
395170,97058,472273,2021-05-02 10:53:31
862731,561908,109431,2021-07-31 08:11:00
556798,31387,725426,2021-03-27 06:18:20
873982,896213,846142,2021-07-18 04:06:30
774247,739406,775848,2020-10-24 01:39:00
66987,823014,868772,2020-12-21 05:57:59
```

CONTOH OUTPUT:

```
..:UTS:..
1. Tampil data rekening
2. Tampil data transaksi
3. Mencari saldo > 500000
4. Sorting by name
5. Keluar
Pilih(1-5): 2
No Rekening    Saldo    Saldo Awal    Saldo Akhir    Tanggal Transaksi
16030927 3084 898214.0 494048.0 3587.0 2021-03-09 07:54:42
16100617 0573 205420.0 200162.0 775880.0 2021-06-25 10:23:00
16240401 2243 838632.0 350929.0 328316.0 2021-09-18 23:00:04
16270525 0112 230659.0 204434.0 690503.0 2022-02-02 19:10:34
16971284 2416 770592.0 334245.0 444267.0 2020-08-11 13:36:56

..:UTS:..
1. Tampil data rekening
2. Tampil data transaksi
3. Mencari saldo > 500000
4. Sorting by name
5. Keluar
|
```

```
1 package UTSASD10;
2
3 public class Rekening {
4     public String noRekening;
5     public String nama;
6     public String namalbu;
7     public String phone;
8     public String email;
9
10    public Rekening(String noRekening, String nama, String namalbu, String phone, String email) {
11        this.noRekening = noRekening;
12        this.nama = nama;
13        this.namalbu = namalbu;
14        this.phone = phone;
15        this.email = email;
16    }
17
18    public void cetakInfo() {
19        System.out.println("No Rekening : " + noRekening);
20        System.out.println("Nama       : " + nama);
21        System.out.println("Nama Ibu    : " + namalbu);
22        System.out.println("Phone      : " + phone);
23        System.out.println("Email     : " + email);
24    }
25 }
26
```

```
1 package UTSASD10;
2
3 public class Transaksi {
4     public String noRekening;
5     public double saldo;
6     public double saldoAwal;
7     public double saldoAkhir;
8     public String tanggalTransaksi;
9     public String type;
10
11
12    public Transaksi(String noRekening, double saldo, double saldoAwal, double saldoAkhir, String tanggalTransaksi, String type) {
13        this.noRekening = noRekening;
14        this.saldo = saldo;
15        this.saldoAwal = saldoAwal;
16        this.saldoAkhir = saldoAkhir;
17        this.tanggalTransaksi = tanggalTransaksi;
18        this.type = type;
19    }
20
21    public void cetakInfoTransaksi() {
22        System.out.println("No Rekening      : " + noRekening);
23        System.out.println("Tanggal Transaksi : " + tanggalTransaksi);
24        System.out.println("Type Transaksi   : " + type);
25        System.out.println("Saldo            : " + saldo);
26        System.out.println("Saldo Awal      : " + saldoAwal);
27        System.out.println("Saldo Akhir     : " + saldoAkhir);
28    }
29 }
30
```

```

1 package UTSA009;
2 import java.util.Scanner;
3
4 public class MainTransaksi {
5     public static void main(String[] args) {
6         Scanner scanner = new Scanner(System.in);
7         //=====Data Rekening=====
8         Rekening[] rekenings = {
9             new Rekening("16030927 3084", "Wallace", "Chase Castro", "1-458-264-3263", "ligula.nullamgacitisociosqu.edu"),
10            new Rekening("16100617 0573", "Darius", "Julian Daniel", "1-357-843-0547", "nec@lectusjusto.org"),
11            new Rekening("16240401 2243", "Fuller", "Finn Dunlap", "571-7052", "comallis@vestibulumanteipsum.org"),
12            new Rekening("16270925 0112", "Malcolm", "Keane Floyd", "623-0234", "porttitor.tellus.nam@curabitur.ca"),
13            new Rekening("16971204 2416", "Geoffrey", "Stephen Pratt", "1-683-416-8323", "ut.pellentesque@luctusutpellentesque.com"),
14            new Rekening("16100727 8862", "Rudyard", "Charles Morales", "650-5379", "Proin.eget@velitgestaslacinia.ca"),
15            new Rekening("16460329 4259", "Troy", "Damon Guerra", "897-7608", "pede.Suspendisse.dui@ca"),
16            new Rekening("16120421 3437", "Alec", "Cooper Lee", "792-4447", "nom@us.com"),
17            new Rekening("16180729 7229", "Walter", "Seth Drake", "862-8209", "Pellentesque.ut@psumque.ca"),
18            new Rekening("16950113 6823", "Simon", "Burton Gates", "592-6919", "tellus.justo.sit@commodoautor.net"),
19            new Rekening("16850708 3528", "Kamal", "Odysseus Salas", "1-115-339-7678", "dictum@nec.edu"),
20            new Rekening("16080205 9329", "Xenos", "Colin Curry", "1-891-703-2664", "vel@nullamcorperragna.co.uk"),
21            new Rekening("16080628 2695", "Merritt", "Clarke Roman", "1-978-632-5110", "Aliquam.gravid@vestibulum@auris.net"),
22            new Rekening("16130909 2979", "Ryder", "Joel Cunningham", "817-1766", "interdum.curabitur.dictum@utrumna.edu"),
23            new Rekening("16090212 8688", "Preston", "Brook Schroeder", "1-675-408-4501", "et.ulltrice@ca.co.uk"),
24            new Rekening("16141008 9963", "Alec", "Baker Barton", "527-9085", "ut@aultricies@adipiscing.ca"),
25            new Rekening("16511222 7763", "Price", "Ashton Burke", "1-564-419-4285", "Proin.velit@duisac.net"),
26            new Rekening("16720623 0943", "Devin", "Slade Flores", "977-6690", "ac@nibh@liquam@ornare.com"),
27            new Rekening("16771126 7372", "Ignatius", "Lionel Kane", "353-5137", "cubilia.Curae.Phasellus@uis.com");
28
29
30         //=====Data Transaksi=====
31         Transaksi[] transaksi = {
32             new Transaksi("16720623 0943", 898214, 494048, 3587, "2021-03-09 07:54:42", "Debit"),
33             new Transaksi("16511222 7763", 205428, 200162, 778880, "2021-06-25 10:21:00", "Kredit"),
34             new Transaksi("16141008 9963", 838632, 359029, 328316, "2021-09-18 23:00:04", "Kredit"),
35             new Transaksi("16971204 2416", 230659, 204434, 690503, "2022-02-02 19:10:34", "Kredit"),
36             new Transaksi("16720623 0943", 770592, 334245, 444267, "2020-08-11 13:36:56", "Debit"),
37             new Transaksi("16180729 7229", 685302, 451002, 376442, "2020-05-23 07:34:53", "Debit"),
38             new Transaksi("16180729 7229", 816129, 851003, 597942, "2021-07-18 19:41:20", "Kredit"),
39             new Transaksi("16890212 8688", 989609, 802752, 333823, "2022-02-01 01:13:11", "Kredit"),
40             new Transaksi("16320421 3437", 297103, 396116, 779589, "2021-07-03 01:09:49", "Kredit"),
41             new Transaksi("16950113 6823", 66190, 619774, 259150, "2021-09-09 03:57:30", "Debit"),
42             new Transaksi("16130909 2979", 234301, 547922, 278309, "2021-08-24 13:18:39", "Debit"),
43             new Transaksi("16850708 3528", 243306, 2023, 809468, "2021-03-12 03:40:16", "Debit"),
44             new Transaksi("16460329 4259", 371045, 402034, 991242, "2021-08-06 11:48:59", "Kredit"),
45             new Transaksi("16141008 9963", 395170, 472273, 97058, "2021-05-02 10:53:31", "Debit"),
46             new Transaksi("16130909 2979", 862731, 109431, 561908, "2021-07-31 08:11:00", "Debit"),
47             new Transaksi("16130909 2979", 556798, 725426, 31387, "2021-03-27 06:18:20", "Debit"),
48             new Transaksi("16180729 7229", 873982, 816142, 896213, "2021-07-18 04:06:30", "Kredit"),
49             new Transaksi("16771126 7372", 774247, 779848, 739406, "2020-10-24 01:39:00", "Kredit"),
50             new Transaksi("16511222 7763", 66987, 868772, 823014, "2020-12-21 05:57:59", "Kredit");
51
52
53         for (Transaksi transaksi : transaksi) {
54             if (transaksi.noRekening != null) {
55                 for (Rekening rekening : rekenings) {
56                     if (transaksi.noRekening.equals(rekening.noRekening)) {
57                         transaksi.saldo += transaksi.saldo;
58                         break;
59                     }
60                 }
61             }
62         }
63
64         int pilihan;
65         do {
66             System.out.println("\n=====UTS=====");
67             System.out.println("1. Tampil data rekening");
68             System.out.println("2. Tampil data transaksi");
69             System.out.println("3. Mencari saldo > 500000");
70             System.out.println("4. Sorting by name");
71             System.out.println("5. Keluar");
72             System.out.print("\n\Pilih (1-5) : ");
73
74             pilihan = scanner.nextInt();
75             scanner.nextLine();
76
77             switch (pilihan) {
78                 case 1:
79                     System.out.println("\nData Rekening:");
80                     for (Rekening rekening : rekenings) {
81                         rekening.cetakInfo();
82                     }
83                     System.out.println("-----");
84                     break;
85                 case 2:
86                     System.out.println("\nData Transaksi:");
87                     for (Transaksi transaksi : transaksi) {
88                         transaksi.cetakInfoTransaksi();
89                     }
90                     System.out.println("-----");
91                     break;
92                 case 3:
93                     System.out.println("\nMekening dengan saldo > 500000:");
94                     for (Transaksi transaksi : transaksi) {
95                         if (transaksi.saldo > 500000) {
96                             transaksi.cetakInfoTransaksi();
97                             System.out.println("-----");
98                         }
99                     }
100                     break;
101                 case 4:
102                     for (int i = 0; i < rekenings.length - 1; i++) {
103                         for (int j = i + 1; j < rekenings.length; j++) {
104                             if (rekenings[i].nama.compareToIgnoreCase(rekenings[j].nama) > 0) {
105                                 Rekening temp = rekenings[i];
106                                 rekenings[i] = rekenings[j];
107                                 rekenings[j] = temp;
108                             }
109                         }
110                     }
111                     System.out.println("\nData Rekening setelah diurutkan berdasarkan nama:");
112                     for (Rekening rekening : rekenings) {
113                         rekening.cetakInfo();
114                     }
115                     System.out.println("-----");
116                     break;
117                 case 5:
118                     System.out.println("TEERIPAAAA KAAASIIIIHHHHHHH. :)");
119                     break;
120                 default:
121                     System.out.println("Pilihan tidak valid");
122                     break;
123             }
124         } while (pilihan != 5);
125
126         scanner.close();
127     }
128 }
129
130
131
132
133
134
135
136

```

```

=====UTS=====
1. Tampil data rekening
2. Tampil data transaksi
3. Mencari saldo > 500000
4. Sorting by name
5. Keluar

Pilih (1-5) : 1

Data Rekening:
No Rekening : 16030927 3084
Nama       : Wallace
Nama Ibu   : Chase Castro
Phone      : 1-458-264-3263
Email      : ligula.Nullam@tacitisociosqu.edu
-----
No Rekening : 16100617 0573
Nama       : Darius
Nama Ibu   : Julian Daniel
Phone      : 1-357-843-0547
Email      : nec@lectusjusto.org
-----
No Rekening : 16240401 2243
Nama       : Fuller
Nama Ibu   : Finn Dunlap
Phone      : 571-7062
Email      : convallis@Vestibulumanteipsum.org
-----
No Rekening : 16270525 0112
Nama       : Malcolm
Nama Ibu   : Keane Floyd
Phone      : 623-0234
Email      : porttitor.tellus.non@Curabitur.ca

```

Dan seterusnya...

```

=====UTS=====
1. Tampil data rekening
2. Tampil data transaksi
3. Mencari saldo > 500000
4. Sorting by name
5. Keluar

Pilih (1-5) : 2

Data Transaksi:
No Rekening      : 16720623 0943
Tanggal Transaksi : 2021-03-09 07:54:42
Type Transaksi    : Debit
Saldo            : 1796428.0
Saldo Awal       : 494048.0
Saldo Akhir      : 3587.0
-----
No Rekening      : 16511222 7763
Tanggal Transaksi : 2021-06-25 10:23:00
Type Transaksi    : Kredit
Saldo            : 410840.0
Saldo Awal       : 200162.0
Saldo Akhir      : 775880.0
-----
No Rekening      : 16141008 9963
Tanggal Transaksi : 2021-09-18 23:00:04
Type Transaksi    : Kredit
Saldo            : 1677264.0
Saldo Awal       : 350929.0
Saldo Akhir      : 328316.0
-----

```

Dan seterusnya...

```

=====UTS=====
1. Tampil data rekening
2. Tampil data transaksi
3. Mencari saldo > 500000
4. Sorting by name
5. Keluar

Pilih (1-5) : 3

Rekening dengan saldo > 500000:
No Rekening      : 16720623 0943
Tanggal Transaksi : 2021-03-09 07:54:42
Type Transaksi   : Debit
Saldo            : 1796428.0
Saldo Awal       : 494048.0
Saldo Akhir      : 3587.0
-----
No Rekening      : 16141008 9963
Tanggal Transaksi : 2021-09-18 23:00:04
Type Transaksi   : Kredit
Saldo            : 1677264.0
Saldo Awal       : 350929.0
Saldo Akhir      : 328316.0
-----
No Rekening      : 16720623 0943
Tanggal Transaksi : 2020-08-11 13:36:56
Type Transaksi   : Debit
Saldo            : 1541184.0
Saldo Awal       : 334245.0
Saldo Akhir      : 444267.0
-----
No Rekening      : 16180729 7229
Tanggal Transaksi : 2020-05-23 07:34:53
Type Transaksi   : Debit
Saldo            : 1370604.0
Saldo Awal       : 451002.0
Saldo Akhir      : 376442.0
-----

```

Dan seterusnya...

```

=====UTS=====
1. Tampil data rekening
2. Tampil data transaksi
3. Mencari saldo > 500000
4. Sorting by name
5. Keluar

Pilih (1-5) : 4

Data Rekening setelah diurutkan berdasarkan nama:
No Rekening : 16320421 3437
Nama       : Alec
Nama Ibu   : Cooper Lee
Phone      : 792-4447
Email      : non@mus.com
-----
No Rekening : 16141008 9963
Nama       : Alec
Nama Ibu   : Baker Barton
Phone      : 527-9085
Email      : ut@aultriciesadipiscing.ca
-----
No Rekening : 16100617 0573
Nama       : Darius
Nama Ibu   : Julian Daniel
Phone      : 1-357-843-0547
Email      : nec@lectusjusto.org
-----
No Rekening : 16720623 0943
Nama       : Devin
Nama Ibu   : Slade Flores
Phone      : 977-6690
Email      : ac@nibhAliquamornare.com
-----

```

Dan seterusnya...

```

=====UTS=====
1. Tampil data rekening
2. Tampil data transaksi
3. Mencari saldo > 500000
4. Sorting by name
5. Keluar

Pilih (1-5) : 5
TEERIMAAA KAAASIIHHHHHHHH.)))
-Dwi Septa Satria Agung
PS C:\Users\Septa Satria\OneDrive - SMAN 2 BLITAR\Kuliah\Semester 2\Algoritma dan Struktur Data\Praktek>

```