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KELAS : TI-1C
MATERI : UTS

LAPORAN PRAKTIKUM ALGORITMA DAN STRUKTUR DATA

Class Bank10

```
1 package UTS_10_1C_FahriZanuarP;  
2  
3 public class Bank10 {  
4     String noRekening, nama,namaIbu, noHp, email;  
5  
6     public Bank10(String noRekening, String nama, String namaIbu, String noHp, String email) {  
7         this.noRekening = noRekening;  
8         this.nama = nama;  
9         this.namaIbu = namaIbu;  
10        this.noHp = noHp;  
11        this.email = email;  
12    }  
13  
14    public void tampilDataNorek10 (){  
15        System.out.printf("%-16s %-10s %-15s %-20s %-5s\n", noRekening, nama, namaIbu, noHp,email);  
16    }  
17 }  
18
```

Class Transaksi10

```
1 package UTS_10_1C_FahriZanuarP;  
2  
3 public class Transaksi10 {  
4     String kodeTransaksi, tanggalTransaksi, type;  
5     double saldo, inOutSaldo, finalsald;  
6     Bank10 bankAcc;  
7  
8     public Transaksi10(String kodeTransaksi, String tanggalTransaksi, String type, double saldo, double inOutSaldo, double finalsald, Bank10 bankAcc) {  
9         this.kodeTransaksi = kodeTransaksi;  
10        this.tanggalTransaksi = tanggalTransaksi;  
11        this.type = type;  
12        this.saldo = saldo;  
13        this.inOutSaldo = inOutSaldo;  
14        this.finalsald = finalsald;  
15        this.bankAcc = bankAcc;  
16    }  
17  
18    public void tampilDataTransaksi10(){  
19        System.out.printf(format: "%-15s %-17s %-15s %-15s %-15s %-13s %-12s \n", kodeTransaksi, bankAcc.noRekening, saldo, inOutSaldo, finalsald, tanggalTransaksi, type );  
20    }  
21 }  
22  
23
```

Class MainBank10



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```
1 package UTS_10_1C_FahriZanuarP;  
2  
3 import java.util.Scanner;  
4  
5 public class MainBank10 {  
6     public static void main(String[] args) {  
7         Scanner inputInt = new Scanner(System.in);  
8         Scanner inputStr = new Scanner(System.in);  
9         StackTransaksi10 stack = new StackTransaksi10();  
10        stack.StackTransaksiBank10(5);  
11        Bank10 acc = new Bank10("16030927 3084", "Wallace", "Mei Mei", "082-458-264-3263", "wallace@gmail.com");  
12        Bank10 acc1 = new Bank10("16100617 0573", "Darius", "Susanti", "081-357-843-0547", "dairius@opt.org");  
13        Bank10 acc2 = new Bank10("16240401 2243", "Fuller", "Rosalia", "085-556-712-7062", "fuller@gmail.com");  
14        Bank10 acc3 = new Bank10("16270525 0112", "Maria", "Krabelia", "082-267-223-0234", "maria@gmail.com");  
15        Bank10 acc4 = new Bank10("16101617 2416", "Gery", "Fatimah", "083-683-416-8323", "gery@gery.com");  
16        stack.akunBank10(5);  
17        stack.tambahAkunBank10(acc);  
18        stack.tambahAkunBank10(acc1);  
19        stack.tambahAkunBank10(acc2);  
20        stack.tambahAkunBank10(acc3);  
21        stack.tambahAkunBank10(acc4);  
22        Transaksi10 tr = new Transaksi10("Tr001", "23-04-2024", "Debit", 500000, 100000, 400000, acc);  
23        Transaksi10 tr1 = new Transaksi10("Tr002", "23-04-2024", "Kredit", 500000, 100000, 600000, acc1);  
24        Transaksi10 tr2 = new Transaksi10("Tr004", "23-04-2024", "Debit", 500000, 300000, 200000, acc2);  
25        Transaksi10 tr3 = new Transaksi10("Tr002", "23-04-2024", "Kredit", 500000, 150000, 650000, acc3);  
26        Transaksi10 tr4 = new Transaksi10("Tr002", "23-04-2024", "Kredit", 500000, 200000, 700000, acc4);  
27        stack.push10(tr);  
28        stack.push10(tr1);  
29        stack.push10(tr2);  
30        stack.push10(tr3);  
31        stack.push10(tr4);  
32        do {  
33            System.out.println("=====POLINEMA BANK=====");  
34            System.out.println("BANK MENU: ");  
35            System.out.println("1. Data Norek");  
36            System.out.println("2. Data Transaksi (dalam stack)");  
37            System.out.println("3. Search Data (No rek)");  
38            System.out.println("4. Display Min/Max Data (Max Saldo)");  
39            System.out.println("5. Sort Data Dengan (Selection Sort)");  
40            System.out.println("6. Exit");  
41            int pilihan = inputInt.nextInt();  
42            switch (pilihan) {  
43                case 1:  
44                    stack.displayData10(pilihan);  
45                    break;  
46                case 2:  
47                    stack.displayData10(pilihan);  
48                    break;  
49                case 3:  
50                    System.out.print("Input No Rekening Pengguna: ");  
51                    String norek = inputStr.nextLine();  
52                    stack.tampilSearching10(norek);  
53                    break;  
54                case 4:  
55                    System.out.println("Menampilkan Saldo Tertinggi");  
56                    stack.maxSaldo();  
57                default:  
58                    break;  
59            }  
60        } while (true);  
61    }  
62 }  
63 }  
64 }
```

Class StackTransaksi10



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```
1 package UTS_10_1C_FahriZanuarP;  
2  
3 public class StackTransaksi10 {  
4     Transaksi10 trs[];  
5     int size, top, jumlahAkun--1;  
6     Bank10 acc[];  
7  
8  
9     public void akunBank10 (int kapasitas){  
10         acc = new Bank10[kapasitas];  
11     }  
12  
13     public void tambahAkunBank10(Bank10 akun){  
14         jumlahAkun++;  
15         acc[jumlahAkun]=akun;  
16     }  
17  
18     public void StackTransaksi10(int kapasitas){  
19         trs = new Transaksi10[kapasitas];  
20         size = kapasitas;  
21         top=-1;  
22     }  
23     public boolean cekKosong10(){  
24         return top==--1;  
25     }  
26  
27     public boolean cekPenuh10(){  
28         return top == size-1;  
29     }  
30  
31     public void push10(Transaksi10 data){  
32         if (cekPenuh10()) {  
33             System.out.println("Stack Penuh");  
34         }else{  
35             top++;  
36             trs[top]=data;  
37         }  
38     }  
39  
40     public Transaksi10 pop10(){  
41         if (cekKosong10()) {  
42             System.out.println("Stack Kosong");  
43             return null;  
44         }else{  
45             Transaksi10 data=trs[top];  
46             top--;  
47             return data;  
48         }  
49     }  
50  
51     public void displayData10(int pilihan){  
52         if (pilihan==1) {  
53             System.out.println("No Rekening      Nama      Nama Ibu      Nohp      email");  
54             for (int i = 0; i < jumlahAkun; i++) {  
55                 acc[i].tampilDataMorek10();  
56             }  
57         }else if (pilihan==2) {  
58             System.out.println("Kode transaksi No Rekening      Saldo      Debit/Kredit      Final Saldo      Tanggal Transaksi      Type");  
59             for (int i = top; i >= 0; i--) {  
60                 trs[i].tampilDataTransaksi10();  
61             }  
62         }  
63     }  
64  
65     public Transaksi10 SearchingBinaryMorek10 (String cari, int left, int right){  
66         int mid;  
67         if (right>=left) {  
68             mid=(left+right)/2;  
69             if (cari.compareToIgnoreCase(trs[mid].bankAcc.noRekening)==0) {  
70                 return trs[mid];  
71             } else if (acc[mid].noRekening.compareToIgnoreCase(cari)<0) {  
72                 return SearchingBinaryMorek10(cari, left, mid-1);  
73             } else {  
74                 return SearchingBinaryMorek10(cari, mid+1, right);  
75             }  
76         }  
77         return null;  
78     }  
79     public void maxSaldo () {  
80         double max = -1;  
81         int posisi = -1;  
82         for (int i = 0; i < jumlahAkun-1; i++) {  
83             if (trs[i].finalsaldo>trs[i+1].saldo) {  
84                 posisi=i;  
85             }  
86         }  
87         System.out.println("Kode Transaksi : "+ trs[posisi].kodeTransaksi);  
88         System.out.println("No rekening : "+ trs[posisi].bankAcc.noRekening);  
89         System.out.println("Nama : "+trs[posisi].bankAcc.nama);  
90         System.out.println("Saldo : "+trs[posisi].saldo);  
91         System.out.println("Debit/kredit : "+trs[posisi].inOutSaldo);  
92         System.out.println("Saldo Akhir : "+trs[posisi].finalsaldo);  
93         System.out.println("Tanggal Transaksi: "+trs[posisi].tanggalTransaksi);  
94         System.out.println("Type : "+trs[posisi].type);  
95     }  
96     public void tampilMinMax(){  
97  
98     }  
99     public void tampilSearching10 (String cari){  
100         Transaksi10 hasil = SearchingBinaryMorek10(cari, 0, jumlahAkun);  
101         if (hasil==null) {  
102             System.out.println("Kode Transaksi : "+ hasil.kodeTransaksi);  
103             System.out.println("No rekening : "+ hasil.bankAcc.noRekening);  
104             System.out.println("Nama : "+hasil.bankAcc.nama);  
105             System.out.println("Saldo : "+hasil.saldo);  
106             System.out.println("Debit/kredit : "+hasil.inOutSaldo);  
107             System.out.println("Saldo Akhir : "+hasil.finalsaldo);  
108             System.out.println("Tanggal Transaksi: "+hasil.tanggalTransaksi);  
109             System.out.println("Type : "+hasil.type);  
110         }else{  
111             System.out.println("Transaksi tidak ditemukan");  
112         }  
113     }  
114 }  
115
```



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1. *Display data norek*

```
=====POLINEMA BANK=====
BANK MENU:
1. Data Norek
2. Data Transaksi (dalam stack)
3. Search Data (No rek)
4. Display Min/Max Data (Max Saldo)
5. Sort Data Dengan (Selection Sort)
6. Exit
1
No Rekening    Nama      Nama Ibu    NoHp      email
16030927 3084    Wallace    Mei Mei    082-458-264-3263    wallace@gmail.com
16100617 0573    Darius     Susanti    081-357-843-0547    dairius@opt.org
16240401 2243    Fuller     Rosalia    085-556-712-7062    fuller@gmail.com
16270525 0112    Maria      Krabelia    082-267-223-0234    maria@gmail.com
```

2. *Display data transaksi*

```
=====POLINEMA BANK=====
BANK MENU:
1. Data Norek
2. Data Transaksi (dalam stack)
3. Search Data (No rek)
4. Display Min/Max Data (Max Saldo)
5. Sort Data Dengan (Selection Sort)
6. Exit
2
Kode transaksi No Rekening    Saldo      Debit/Kredit    Final Saldo    Tanggal Transaksi    Type
Tr002          16101617 2416    500000.0    200000.0       700000.0         23-04-2024    Kredit
Tr002          16270525 0112    500000.0    150000.0       650000.0         23-04-2024    Kredit
Tr004          16240401 2243    500000.0    300000.0       200000.0         23-04-2024    Debit
Tr002          16100617 0573    500000.0    100000.0       600000.0         23-04-2024    Kredit
Tr001          16030927 3084    500000.0    100000.0       400000.0         23-04-2024    Debit
=====POLINEMA BANK=====
```

3. *Search Data Transaksi*

```
=====POLINEMA BANK=====
BANK MENU:
1. Data Norek
2. Data Transaksi (dalam stack)
3. Search Data (No rek)
4. Display Min/Max Data (Max Saldo)
5. Sort Data Dengan (Selection Sort)
6. Exit
3
Input No Rekening Pengguna: 1610617 2416
Transaksi tidak ditemukan
=====POLINEMA BANK=====
```

4. *Display Min/max*

```
=====POLINEMA BANK=====
BANK MENU:
1. Data Norek
2. Data Transaksi (dalam stack)
3. Search Data (No rek)
4. Display Min/Max Data (Max Saldo)
5. Sort Data Dengan (Selection Sort)
6. Exit
4
Menampilkan Saldo Tertinggi
Kode Transaksi : Tr002
No rekening : 16270525 0112
Nama : Maria
Saldo : 500000.0
Debit/kredit : 150000.0
Saldo Akhir : 650000.0
Tanggal Transaksi: 23-04-2024
Type : Kredit
=====POLINEMA BANK=====
```

5. *Sort data*