# ALGORITMA DAN STRUKTUR DATA

## UTS



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**NEGERI MALANG**

**2024**

- **REKENING**

Membuat class dan construktornya

```java
Codeium: Refactor | Explain
public class Rekening08
{
    String noRekening, nama, namaIbu, phone, email;
    public Rekening08(String noRekening, String nama, String namaIbu, String phone, String
    email) {
        this.noRekening = noRekening;
        this.nama = nama;
        this.namaIbu = namaIbu;
        this.phone = phone;
        this.email = email;
    }
}
```

Menambahkan method tambah

```java
Rekening08 data[] = new Rekening08[1000];
int idx;

// Transaksi08 transaksi08 = new Transaksi08();

Codeium: Refactor | Explain | Generate Javadoc | ×
void tambah(Rekening08 d) {
    if (idx < data.length) {
        data[idx] = d;
        idx++;
    } else {
        System.out.println(x:"Data sudah penuh!!");
    }
}
```

Menambahkan method getData dan tampiilALl

```java
Codeium: Refactor | Explain | Generate Javadoc | ×
Rekening08[] getData(){
    return data;
}

Codeium: Refactor | Explain | Generate Javadoc | ×
void tampilAll() {
    System.out.println();
    System.out.println(x:"Data Rekening");
    System.out.println();
    System.out.println(x:"No Rekening \t Nama \t Nama Ibu \t Phone \t Email");
    for (Rekening08 d : data) {
        if(d != null){
            System.out.println(d.noRekening+"\t"+d.nama+"\t"+d.namaIbu+"\t"+d.phone+"\t"+d.email);
        }
    }
    System.out.println();
}
```

Menambahkan method sortByName

```java
Codeium: Refactor | Explain | Generate Javadoc | ×
Transaksi08[] sortByName(Transaksi08 dataTra[]) {
    for (int i = 0; i < idx - 1; i++) {
        int minIdx = i;
        for (int j = i + 1; j < idx; j++) {
            if (data[j].nama.compareTo(data[minIdx].nama) < 0) {
                minIdx = j;
            }
        }
        if (minIdx != i) {
            Rekening08 temp = data[i];
            data[i] = data[minIdx];
            data[minIdx] = temp;

            Transaksi08 tempTra = dataTra[i];
            dataTra[i] = dataTra[minIdx];
            dataTra[minIdx] = tempTra;
        }
    }

    return dataTra;
}
```

- **TRANSAKSI**

Membuat class dan construktornya

```java
double saldo, saldoAwal, saldoAkhir;
string tanggalTransaksi, type;

public Transaksi08(double saldo, double saldoAwal, double saldoAkhir, String tanggalTransaksi, String type) {
    this.saldo = saldo;
    this.saldoAwal = saldoAwal;
    this.saldoAkhir = saldoAkhir;
    this.tanggalTransaksi = tanggalTransaksi;
    this.type = type;
}
```

Membuat method tambah, getData dan UpdateData

```java
void tambah(Transaksi08 d) {
    if (idx < data.length) {
        data[idx] = d;
        idx++;
    } else {
        System.out.println(x:"Data sudah penuh!!");
    }
}

Codeium: Refactor | Explain | Generate Javadoc | ×
Transaksi08[] getData(){
    return data;
}

Codeium: Refactor | Explain | Generate Javadoc | ×
void updateData(Transaksi08 dataUpdate[])
{
    data = dataUpdate;
}
```

Membuat method tampil

```java
void tampilAll(Rekening08 dataCust[]) {
    System.out.println();
    System.out.println(x:"Data Transaksi");
    System.out.println();
    System.out.println(x:"No Rekening \t Saldo \t Saldo Awal \t Saldo Akhir \t Tanggal Transaksi");
    for(int i=0; i<data.length; i++)
    {
        if(data[i] != null){
            System.out.println(dataCust[i].noRekening+"\t"+data[i].saldo+"\t"+data[i].saldoAwal+"\t"+data[i].saldoAkhir
            +"\t"+data[i].tanggalTransaksi);
        }
    }
    System.out.println();
}
```

Membuat method showdatalessthan

```java
void showDataSaldoLessThan(int threshold, Rekening08 dataCust[] ) {
    int min = threshold;
    System.out.println();
    System.out.println("Data Filter Saldo Kurang Dari" + min);
    System.out.println();
    System.out.println(x:"No Rekening \t Saldo \t Saldo Awal \t Saldo Akhir \t Tanggal Transaksi");
    for (int i = 0; i < idx; i++) {
        if (data[i] != null && data[i].saldo < threshold) {
            System.out.println(dataCust[i].noRekening+"\t"+data[i].saldo+"\t"+data[i].saldoAwal+"\t"+data[i].saldoAkhir
            +"\t"+data[i].tanggalTransaksi);
        }
    }
}
```

- **MAIN**

Membuat class main dan instansiasi

```
Codeium: Refactor | Explain
public class Main08 {
    Run | Debug | Codeium: Refactor | Explain | Generate Javadoc | ×
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);

        Rekening08 rekening08 = new Rekening08();
        Transaksi08 transaksi08 = new Transaksi08();
```

Melakukan insert data

```
// insert Rekening
rekening08.tambah(new Rekening08(noRekening:"16030927 3084",nama:"Wallace",namaIbu:"Chase Castro",
phone:"1-458-264-3263",email:"ligula.Nullam@tacitisociosqu.edu"));
rekening08.tambah(new Rekening08(noRekening:"16100617 0573",nama:"Darius",namaIbu:"Julian Daniel",
phone:"1-357-843-0547",email:"nec@lectusjusto.org"));
rekening08.tambah(new Rekening08(noRekening:"16240401 2243",nama:"Fuller",namaIbu:"Finn Dunlap",phone:"571-7062",
email:"convallis@Vestibulumanteipsum.org"));
rekening08.tambah(new Rekening08(noRekening:"16270525 0112",nama:"Malcolm",namaIbu:"Keane Floyd",phone:"623-0234",
email:"porttitor.tellus.non@Curabitur.ca"));
rekening08.tambah(new Rekening08(noRekening:"16971204 2416",nama:"Geoffrey",namaIbu:"Stephen Pratt",
phone:"1-683-416-8323",email:"ut.pellentesque@luctusutpellentesque.com"));


// insert Transaction
transaksi08.tambah(new Transaksi08(saldo:898214,saldoAwal:494048,saldoAkhir:3587,tanggalTransaksi_"2021-03-09
07:54:42", "active"));
transaksi08.tambah(new Transaksi08(saldo:205420,saldoAwal:200162,saldoAkhir:775880,tanggalTransaksi_"2021-06-25
10:23:00", "active"));
transaksi08.tambah(new Transaksi08(saldo:838632,saldoAwal:350929,saldoAkhir:328316,tanggalTransaksi_"2021-09-18
23:00:04", "active"));
transaksi08.tambah(new Transaksi08(saldo:230659,saldoAwal:204434,saldoAkhir:690503,tanggalTransaksi_"2022-02-02
19:10:34", "active"));
transaksi08.tambah(new Transaksi08(saldo:770592,saldoAwal:334245,saldoAkhir:444267,tanggalTransaksi_"2020-08-11
13:36:56", "active"));
```

Membuat list menu

```
int pil = 0;
while (true) {
    System.out.println(x:"=====================================");
    System.out.println(x:"SISTEM INFORMASI PERBANKAN DZULFIKAR 08");
    System.out.println(x:"=====================================");
    System.out.println(x:"1. Tampilkan Data Rekening");
    System.out.println(x:"2. Tampilkan Data Transaksi");
    System.out.println(x:"3. Mencari Saldo > 750000");
    System.out.println(x:"4. Sorting By Name");
    System.out.println(x:"5. Keluar");
    System.out.print( s:"Pilih [1-5] : ");
    pil = input.nextInt();

    switch (pil) {
        case 1:
            rekening08.tampilAll();
            break;
        case 2:
            Rekening08 dataCust[] = rekening08.getData();
            transaksi08.tampilAll(dataCust);
            break;
        case 3:
            Rekening08 dataCust1[] = rekening08.getData();
            transaksi08.showDataSaldoLessThan(threshold:750000, dataCust1);
            break;
        case 4:
            Transaksi08 dataTra[] = transaksi08.getData();
            transaksi08.updateData(rekening08.sortByName(dataTra));
            rekening08.tampilAll();
            break;
        case 5:
            return;
        default:
            System.out.println(x:"Pilihan tidak tersedia. Silahkan Pilih Lagi.");
            break;
    }
}
```

**HASIL COMPILE**

```
======================================
SISTEM INFORMASI PERBANKAN DZULFIKAR 08
======================================
1. Tampilkan Data Rekening
2. Tampilkan Data Transaksi
3. Mencari Saldo > 750000
4. Sorting By Name
5. Keluar
Pilih [1-5] : 1

Data Rekening

No Rekening     Nama     Nama Ibu        Phone    Email
16030927 3084   Wallace Chase Castro    1-458-264-3263  ligula.Nullam@tacitisociosqu.edu
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@luctusutpellentesque.com
```

```
======================================
SISTEM INFORMASI PERBANKAN DZULFIKAR 08
======================================
1. Tampilkan Data Rekening
2. Tampilkan Data Transaksi
3. Mencari Saldo > 750000
4. Sorting By Name
5. Keluar
Pilih [1-5] : 2

Data Transaksi

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
16971204 2416   770592.0        334245.0        444267.0        2020-08-11 13:36:56
```

```
======================================
SISTEM INFORMASI PERBANKAN DZULFIKAR 08
======================================
1. Tampilkan Data Rekening
2. Tampilkan Data Transaksi
3. Mencari Saldo > 750000
4. Sorting By Name
5. Keluar
Pilih [1-5] : 3

Data Filter Saldo Kurang Dari750000

No Rekening      Saldo   Saldo Awal      Saldo Akhir     Tanggal Transaksi
16100617 0573   205420.0        200162.0        775880.0        2021-06-25 10:23:00
16270525 0112   230659.0        204434.0        690503.0        2022-02-02 19:10:34
```

```
========================================
SISTEM INFORMASI PERBANKAN DZULFIKAR 08
========================================
1. Tampilkan Data Rekening
2. Tampilkan Data Transaksi
3. Mencari Saldo > 750000
4. Sorting By Name
5. Keluar
Pilih [1-5] : 4

Data Rekening

No Rekening      Nama     Nama Ibu        Phone      Email
16100617 0573    Darius   Julian Daniel   1-357-843-0547  nec@lectusjusto.org
16240401 2243    Fuller   Finn Dunlap     571-7062        convallis@Vestibulumanteipsum.org
16971204 2416    Geoffrey        Stephen Pratt   1-683-416-8323  ut.pellentesque@luctusutpellentesque.com
16270525 0112    Malcolm Keane Floyd      623-0234        porttitor.tellus.non@Curabitur.ca
16030927 3084    Wallace Chase Castro     1-458-264-3263  ligula.Nullam@tacitisociosqu.edu
```

```
========================================
SISTEM INFORMASI PERBANKAN DZULFIKAR 08
========================================
1. Tampilkan Data Rekening
2. Tampilkan Data Transaksi
3. Mencari Saldo > 750000
4. Sorting By Name
5. Keluar
Pilih [1-5] : 5
PS E:\1POLINEMA\2Genap 2023-2024\PraktikumAlgoritma\uts> []
```