

Laporan Praktikum Pemrograman Berbasis Object KUIS 2



Oleh :

Muh. Fauzi Ramadhan Nugraha (2041720022)

Kelas TI-2B

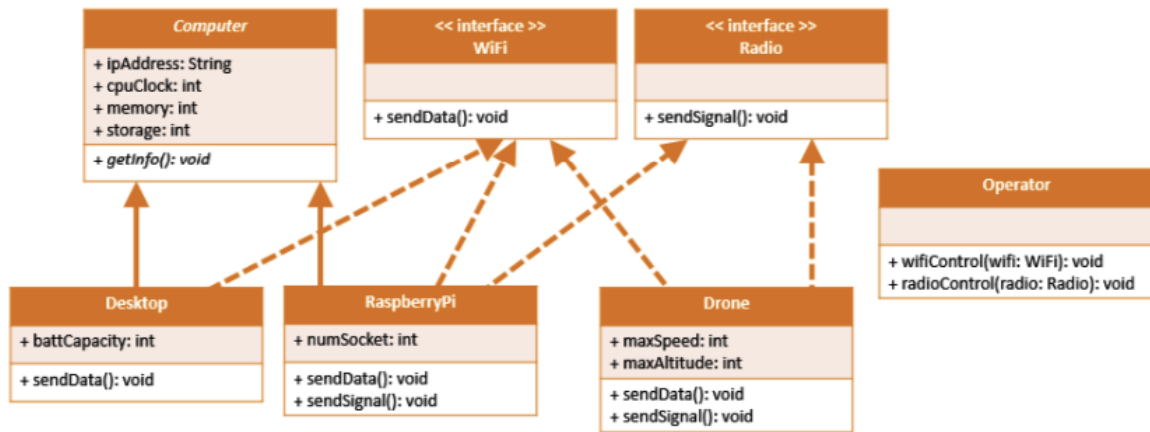
**PROGRAM STUDI D-IV TEKNIK INFORMATIKA
JURUSAN TEKNOLOGI INFORMASI**

POLITEKNIK NEGERI MALANG

Jl. Soekarno Hatta No.9, Jatimulyo, Kec. Lowokwaru, Kota Malang, Jawa
Timur 65141

Soal :

Buatlah kode program dari class diagram di bawah ini. Terdapat class computer yang berupa abstract class, berikut class turunannya dan class lain yang mengimplementasikan [interface](#) WiFi dan Radio. Seperti biasa, kode program dikumpulkan di github, lakukan pullreq di repo berikut <https://github.com/PBO2122-TI2B/kuis2.git>



Jawab :

Class Computer :

```
Computer.java - Source Code - Visual Studio Code
1 public abstract class Computer {
2     protected String ipAddress;
3     protected int cpuClock;
4     protected int memory;
5     protected int storage;
6
7     public Computer (String ipAddress, int cpuClock, int memory, int storage) {
8         this.ipAddress = ipAddress;
9         this.cpuClock = cpuClock;
10        this.memory = memory;
11        this.storage = storage;
12    }
13
14    public abstract void getInfo();
15 }
```

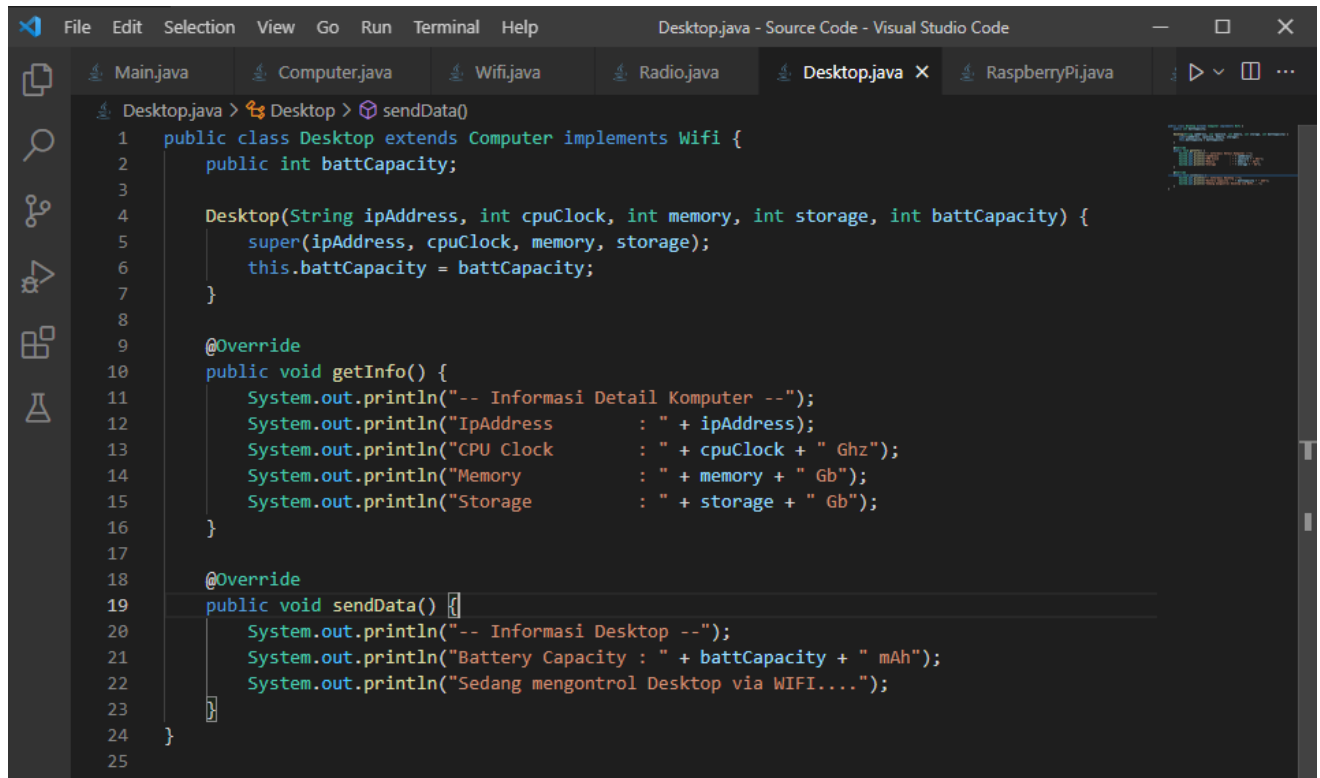
Class Wifi :

```
Wifi.java - Source Code - Visual Studio Code
1 public interface Wifi {
2     public void sendData();
3 }
```

Class Radio :

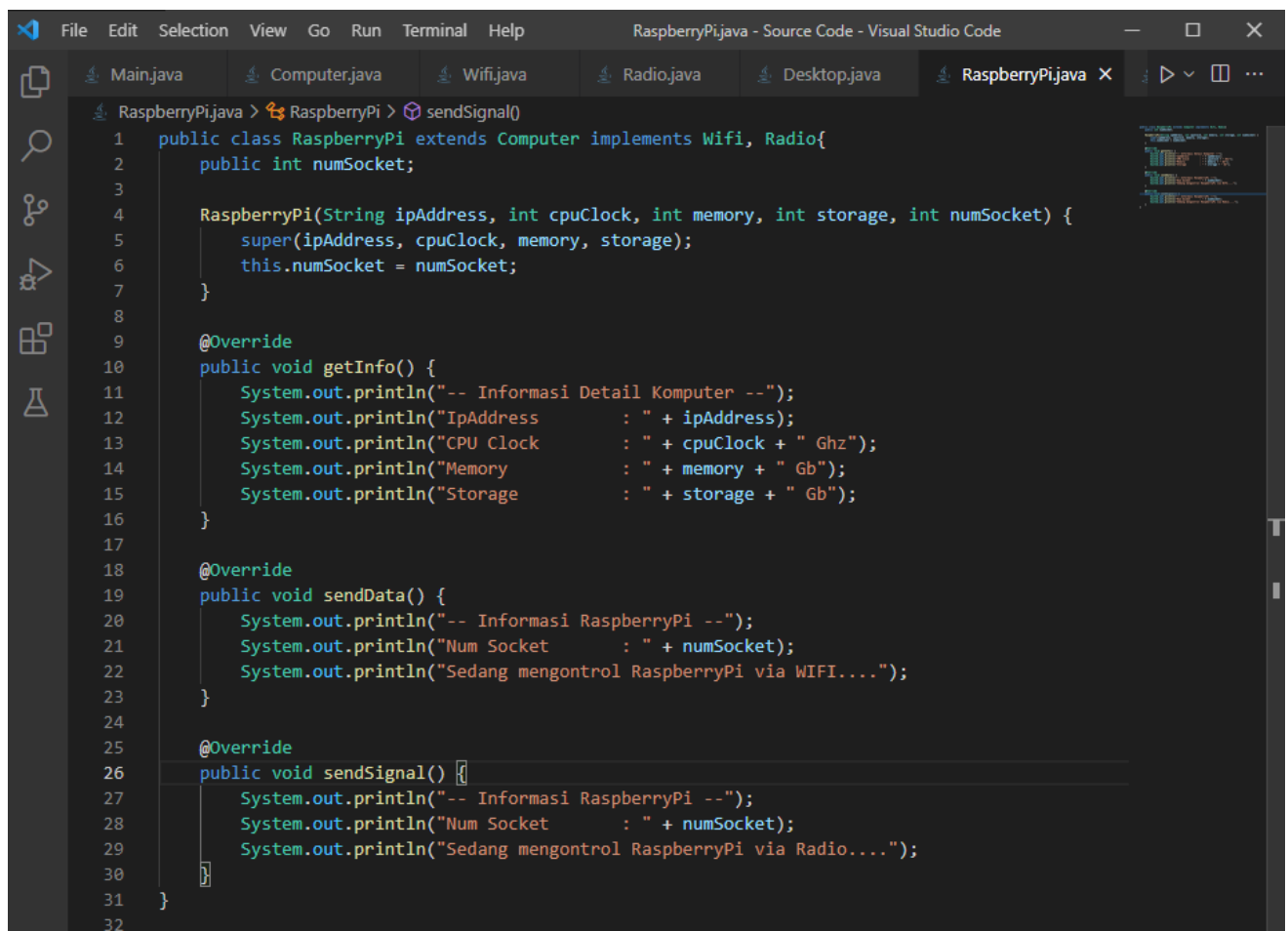
```
Radio.java - Source Code - Visual Studio Code
1 public interface Radio {
2     public void sendSignal();
3 }
```

Class Desktop :



```
Desktop.java > Desktop > sendData()
1 public class Desktop extends Computer implements Wifi {
2     public int battCapacity;
3
4     Desktop(String ipAddress, int cpuClock, int memory, int storage, int battCapacity) {
5         super(ipAddress, cpuClock, memory, storage);
6         this.battCapacity = battCapacity;
7     }
8
9     @Override
10    public void getInfo() {
11        System.out.println("-- Informasi Detail Komputer --");
12        System.out.println("IpAddress      : " + ipAddress);
13        System.out.println("CPU Clock      : " + cpuClock + " Ghz");
14        System.out.println("Memory         : " + memory + " Gb");
15        System.out.println("Storage        : " + storage + " Gb");
16    }
17
18    @Override
19    public void sendData() {
20        System.out.println("-- Informasi Desktop --");
21        System.out.println("Battery Capacity : " + battCapacity + " mAh");
22        System.out.println("Sedang mengontrol Desktop via WIFI...");
23    }
24 }
25
```

Class RaspberryPi :



```
RaspberryPi.java > RaspberryPi > sendSignal()
1 public class RaspberryPi extends Computer implements Wifi, Radio{
2     public int numSocket;
3
4     RaspberryPi(String ipAddress, int cpuClock, int memory, int storage, int numSocket) {
5         super(ipAddress, cpuClock, memory, storage);
6         this.numSocket = numSocket;
7     }
8
9     @Override
10    public void getInfo() {
11        System.out.println("-- Informasi Detail Komputer --");
12        System.out.println("IpAddress      : " + ipAddress);
13        System.out.println("CPU Clock      : " + cpuClock + " Ghz");
14        System.out.println("Memory         : " + memory + " Gb");
15        System.out.println("Storage        : " + storage + " Gb");
16    }
17
18    @Override
19    public void sendData() {
20        System.out.println("-- Informasi RaspberryPi --");
21        System.out.println("Num Socket     : " + numSocket);
22        System.out.println("Sedang mengontrol RaspberryPi via WIFI...");
23    }
24
25    @Override
26    public void sendSignal() {
27        System.out.println("-- Informasi RaspberryPi --");
28        System.out.println("Num Socket     : " + numSocket);
29        System.out.println("Sedang mengontrol RaspberryPi via Radio...");
30    }
31 }
32
```

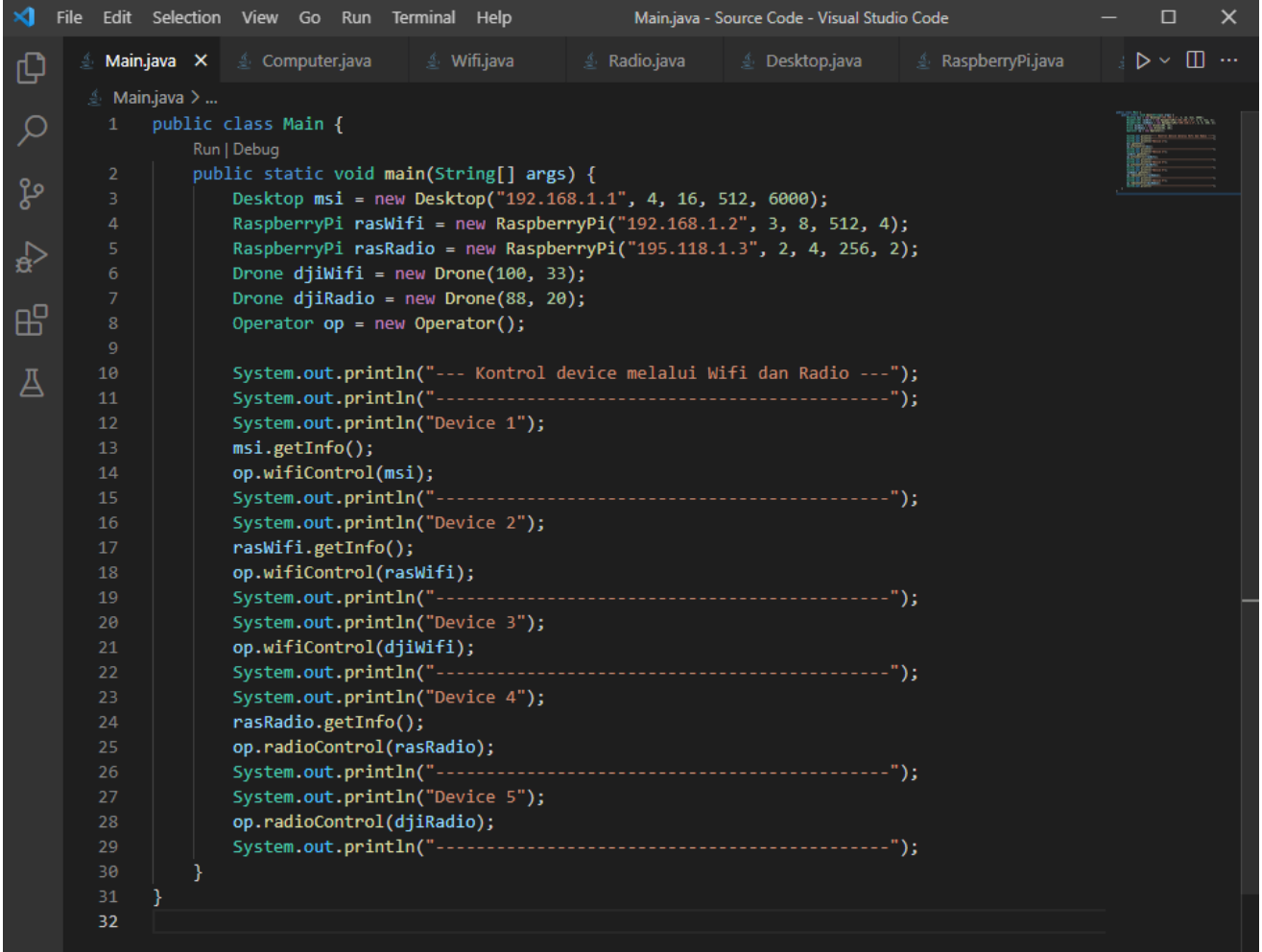
Class Drone :

```
Drone.java > Drone > sendSignal()
1 public class Drone implements Wifi, Radio{
2     public int maxSpeed;
3     public int maxAltitude;
4
5     Drone(int maxSpeed, int maxAltitude){
6         this.maxSpeed = maxSpeed;
7         this.maxAltitude = maxAltitude;
8     }
9     @Override
10    public void sendData() {
11        System.out.println("-- Informasi Drone --");
12        System.out.println("Maximum Speed : " + maxSpeed + " mph");
13        System.out.println("Maximum Altitude : " + maxAltitude + " ft");
14        System.out.println("Sedang mengontrol Drone via WIFI....");
15    }
16
17    @Override
18    public void sendSignal() {
19        System.out.println("-- Informasi Drone --");
20        System.out.println("Maximum Speed : " + maxSpeed + " mph");
21        System.out.println("Maximum Altitude : " + maxAltitude + " ft");
22        System.out.println("Sedang mengontrol Drone via Radio....");
23    }
24 }
25
```

Class Operator :

```
Operator.java > Operator > radioControl(Radio)
1 public class Operator {
2     public void wifiControl(Wifi wifi) {
3         wifi.sendData();
4     }
5
6     public void radioControl(Radio radio) {
7         radio.sendSignal();
8     }
9 }
10
```

Class Main :



```
1 public class Main {
2     Run | Debug
3     public static void main(String[] args) {
4         Desktop msi = new Desktop("192.168.1.1", 4, 16, 512, 6000);
5         RaspberryPi rasWifi = new RaspberryPi("192.168.1.2", 3, 8, 512, 4);
6         RaspberryPi rasRadio = new RaspberryPi("195.118.1.3", 2, 4, 256, 2);
7         Drone djiWifi = new Drone(100, 33);
8         Drone djiRadio = new Drone(88, 20);
9         Operator op = new Operator();
10
11         System.out.println("--- Kontrol device melalui Wifi dan Radio ---");
12         System.out.println("-----");
13         System.out.println("Device 1");
14         msi.getInfo();
15         op.wifiControl(msi);
16         System.out.println("-----");
17         System.out.println("Device 2");
18         rasWifi.getInfo();
19         op.wifiControl(rasWifi);
20         System.out.println("-----");
21         System.out.println("Device 3");
22         op.wifiControl(djiWifi);
23         System.out.println("-----");
24         System.out.println("Device 4");
25         rasRadio.getInfo();
26         op.radioControl(rasRadio);
27         System.out.println("-----");
28         System.out.println("Device 5");
29         op.radioControl(djiRadio);
30         System.out.println("-----");
31     }
32 }
```

Hasil Program :

```
paceStorage\8c29e2675bbae1bfdae320795e665a9d\redhat.java\jdt_ws\Source Code_e04068b7\bin' 'Main'
--- Kontrol device melalui Wifi dan Radio ---
-----
Device 1
-- Informasi Detail Komputer --
IpAddress      : 192.168.1.1
CPU Clock      : 4 Ghz
Memory         : 16 Gb
Storage        : 512 Gb
-- Informasi Desktop --
Battery Capacity : 6000 mAh
Sedang mengontrol Desktop via WIFI....
-----
Device 2
-- Informasi Detail Komputer --
IpAddress      : 192.168.1.2
CPU Clock      : 3 Ghz
Memory         : 8 Gb
Storage        : 512 Gb
-- Informasi RaspberryPi --
Num Socket     : 4
Sedang mengontrol RaspberryPi via WIFI....
-----
Device 3
-- Informasi Drone --
Maximum Speed   : 100 mph
Maximum Altitude : 33 ft
Sedang mengontrol Drone via WIFI....
-----
Device 4
-- Informasi Detail Komputer --
IpAddress      : 195.118.1.3
CPU Clock      : 2 Ghz
Memory         : 4 Gb
Storage        : 256 Gb
-- Informasi RaspberryPi --
Num Socket     : 2
Sedang mengontrol RaspberryPi via Radio....
-----
Device 5
-- Informasi Drone --
Maximum Speed   : 88 mph
Maximum Altitude : 20 ft
Sedang mengontrol Drone via Radio....
-----
PS D:\Semester 3\Praktikum PBO\Pertemuan 12 (Kuis)\Source Code> |
```

```
paceStorage\8c29e2675bbae1bfdae320795e665a9d\redhat.java\jdt_ws\Source Code_e04068b7\bin' 'Main'
--- Kontrol device melalui Wifi dan Radio ---
-----
Device 1
-- Informasi Detail Komputer --
IpAddress      : 192.168.1.1
CPU Clock      : 4 Ghz
Memory         : 16 Gb
Storage        : 512 Gb
-- Informasi Desktop --
Battery Capacity : 6000 mAh
Sedang mengontrol Desktop via WIFI....
-----
Device 2
-- Informasi Detail Komputer --
IpAddress      : 192.168.1.2
CPU Clock      : 3 Ghz
Memory         : 8 Gb
Storage        : 512 Gb
-- Informasi RaspberryPi --
Num Socket     : 4
Sedang mengontrol RaspberryPi via WIFI....
-----
Device 3
-- Informasi Drone --
Maximum Speed   : 100 mph
Maximum Altitude : 33 ft
Sedang mengontrol Drone via WIFI....
-----
Device 4
-- Informasi Detail Komputer --
IpAddress      : 195.118.1.3
CPU Clock      : 2 Ghz
Memory         : 4 Gb
Storage        : 256 Gb
-- Informasi RaspberryPi --
Num Socket     : 2
Sedang mengontrol RaspberryPi via Radio....
-----
Device 5
-- Informasi Drone --
Maximum Speed   : 88 mph
Maximum Altitude : 20 ft
Sedang mengontrol Drone via Radio....
-----
PS D:\Semester 3\Praktikum PBO\Pertemuan 12 (Kuis)\Source Code> |
```