

Name	: Evan Diantha Fafian
Class	: SIB 2G
Absent	: 09
NIM	: 2341760163

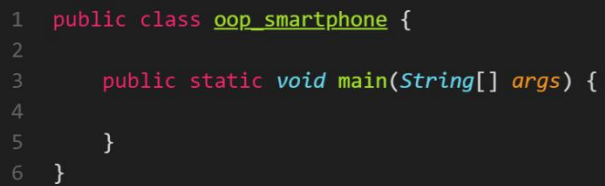
First Week OOP Report

1. Practicum Assignment

1.1. Task 1

Take the following steps so that the practicum assignments carried out are systematic:

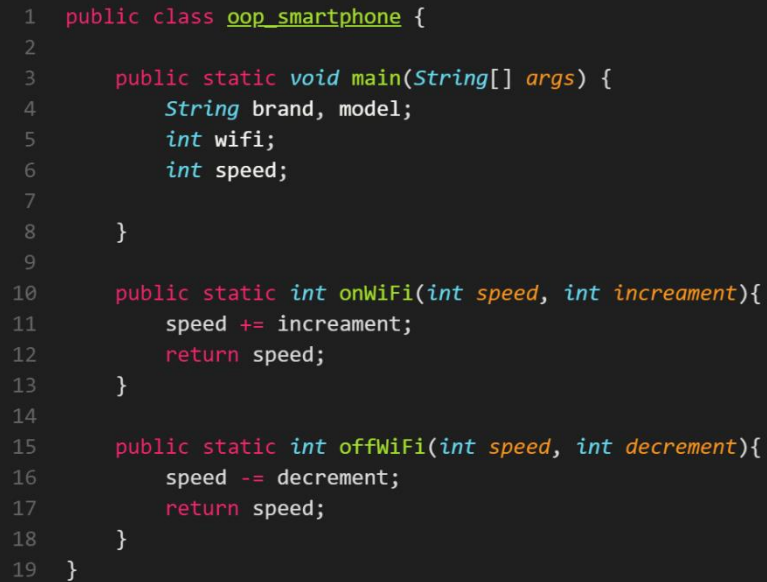
- a. Define 1 category/class of objects. You can use a new object type or one of the objects from the PBO Theory task. For example: Bicycle



```
1  public class oop_smartphone {  
2  
3      public static void main(String[] args) {  
4  
5      }  
6  }
```

- Here I create a class with the name oop_smartphone, here take the case for smartphones

- b. Make observations of the object to determine
- 3 variables/states/traits/states/values that can be had
 - 2 functions/behaviors/procedures/behaviors/processes that the object can perform



```
1  public class oop_smartphone {  
2  
3      public static void main(String[] args) {  
4          String brand, model;  
5          int wifi;  
6          int speed;  
7  
8      }  
9  
10     public static int onWiFi(int speed, int increament){  
11         speed += increament;  
12         return speed;  
13     }  
14  
15     public static int offWiFi(int speed, int decrement){  
16         speed -= decrement;  
17         return speed;  
18     }  
19 }
```

- Here I use 4 variables namely brand, model, wifi, and speed. Then I have 2 functions namely onWiFi and offWiFi

- c. Implement 10 objects of this type into a program with a **structural programming paradigm** (as in the bicycle example above)
- Declare and initialize a variable for each characteristic/state/value of an object as a variable
 - Create a function of every procedure/behavior/process that can be performed by the object and then try to call the function/method

```

1 public class oop_smartphone {
2
3     public static void main(String[] args) {
4         String brand, model, brand2, model2, brand3, model3, brand4, model4, brand5, model5, brand6, model6, brand7, model7, brand8, model8, brand9, model9, brand10, model10;
5         int wifi1, wifi2, wifi3, wifi4, wifi5, wifi6, wifi7, wifi8, wifi9, wifi10;
6         int speed, speed2, speed3, speed4, speed5, speed6, speed7, speed8, speed9, speed10;
7
8         brand="Asus";
9         model="ROG 8 Pro";
10        wifi1=7;
11        speed=5;
12
13        brand2="Vivo";
14        model2="X Fold3";
15        wifi2=7;
16        speed2=5;
17
18        brand3="iPhone";
19        model3="13";
20        wifi3=6;
21        speed3=5;
22
23        brand4="iPhone";
24        model4="14 Pro Max";
25        wifi4=6;
26        speed4=5;
27
28        brand5="Samsung";
29        model5="Galaxy S23";
30        wifi5=6;
31        speed5=5;
32
33        brand6="Google";
34        model6="Pixel 8 Pro";
35        wifi6=7;
36        speed6=5;
37
38        brand7="iPhone";
39        model7="15";
40        wifi7=6;
41        speed7=5;
42
43        brand8="Vivo";
44        model8="X100";
45        wifi8=7;
46        speed8=5;
47
48        brand9="iPhone";
49        model9="15 Pro Max";
50        wifi9=6;
51        speed9=5;
52
53        brand10="Samsung";
54        model10="S24 Ultra";
55        wifi10=7;
56        speed10=5;
57
58        speed = onWifi(speed, 40);
59        speed2 = onWifi(speed2, 40);
60        speed3 = onWifi(speed3, 20);
61        speed4 = onWifi(speed4, 20);
62        speed5 = onWifi(speed5, 20);
63        speed6 = onWifi(speed6, 40);
64        speed7 = onWifi(speed7, 20);
65        speed8 = onWifi(speed8, 40);
66        speed9 = onWifi(speed9, 20);
67        speed10 = onWifi(speed10, 40);
68
69        System.out.println("brand = " + brand);
70        System.out.println("model = " + model);
71        System.out.println("speed = " + speed + " mbps");
72
73        System.out.println("brand = " + brand2);
74        System.out.println("model = " + model2);
75        System.out.println("speed = " + speed2 + " mbps");
76
77        System.out.println("brand = " + brand3);
78        System.out.println("model = " + model3);
79        System.out.println("speed = " + speed3 + " mbps");
80
81        System.out.println("brand = " + brand4);
82        System.out.println("model = " + model4);
83        System.out.println("speed = " + speed4 + " mbps");
84
85        System.out.println("brand = " + brand5);
86        System.out.println("model = " + model5);
87        System.out.println("speed = " + speed5 + " mbps");
88
89        System.out.println("brand = " + brand6);
90        System.out.println("model = " + model6);
91        System.out.println("speed = " + speed6 + " mbps");
92
93        System.out.println("brand = " + brand7);
94        System.out.println("model = " + model7);
95        System.out.println("speed = " + speed7 + " mbps");
96
97        System.out.println("brand = " + brand8);
98        System.out.println("model = " + model8);
99        System.out.println("speed = " + speed8 + " mbps");
100
101        System.out.println("brand = " + brand9);
102        System.out.println("model = " + model9);
103        System.out.println("speed = " + speed9 + " mbps");
104
105        System.out.println("brand = " + brand10);
106        System.out.println("model = " + model10);
107        System.out.println("speed = " + speed10 + " mbps");
108    }
109
110    public static int onWifi(int speed, int increment){
111        speed += increment;
112        return speed;
113    }
114
115    public static int offWifi(int speed, int decrement){
116        speed -= decrement;
117        return speed;
118    }
119 }

```

- Here I declare and initialize the 4 variables that I have created. Here I do it to 10 objects

1.2. Task 2

Create a simple calculator program with a **structural programming paradigm** that can accept the input of number1, operator, and number2 and display the results to the console/screen

```
1  import java.util.Scanner;
2
3  public class calculator_evan {
4      public static void main(String[] args) {
5          Scanner input = new Scanner(System.in);
6
7          System.out.println("=".repeat(30));
8          System.out.println("    Kalkulator Sederhana");
9          System.out.println("    Operasi Matematika");
10         System.out.println("=".repeat(30));
11         System.out.println(" 1. Penjumlahan    (+)");
12         System.out.println(" 2. Pengurangan   (-)");
13         System.out.println(" 3. Perkalian      (*)");
14         System.out.println(" 4. Pembagian      (/)");
15         System.out.println("=".repeat(30));
16
17         System.out.print("Pilih Operasi (1/2/3/4): ");
18         String operasi = input.nextLine();
19         System.out.print("Masukan Bilangan Pertama : ");
20         double bil1 = input.nextDouble();
21         System.out.print("Masukan Bilangan Kedua : ");
22         double bil2 = input.nextDouble();
23         System.out.println("=".repeat(30));
24
25         switch (operasi) {
26             case "1":
27                 System.out.println("User Memilih Operasi Penjumlahan");
28                 break;
29             case "2":
30                 System.out.println("User Memilih Operasi Pengurangan");
31                 break;
32             case "3":
33                 System.out.println("User Memilih Operasi Perkalian");
34                 break;
35             case "4":
36                 System.out.println("User Memilih Operasi Pembagian");
37                 break;
38             default:
39                 System.out.println("Tidak Valid!!!!!!!!!!");
40                 return;
41         }
42
43         double hasil;
44         switch (operasi) {
45             case "1":
46                 hasil = bil1 + bil2;
47                 System.out.println("Hasil Operasi Dari " + bil1 + " + " + bil2 + " = " + hasil);
48                 break;
49             case "2":
50                 hasil = bil1 - bil2;
51                 System.out.println("Hasil Operasi Dari " + bil1 + " - " + bil2 + " = " + hasil);
52                 break;
53             case "3":
54                 hasil = bil1 * bil2;
55                 System.out.println("Hasil Operasi Dari " + bil1 + " * " + bil2 + " = " + hasil);
56                 break;
57             case "4":
58                 if (bil2 != 0) {
59                     hasil = bil1 / bil2;
60                     System.out.println("Hasil Operasi Dari " + bil1 + " / " + bil2 + " = " + hasil);
61                 } else {
62                     System.out.println("Pembagian dengan nol tidak valid!");
63                 }
64                 break;
65             default:
66                 System.out.println("Tidak Valid!!!!!!!!!!");
67                 break;
68         }
69
70         System.out.println("=".repeat(30));
71         input.close();
72     }
73 }
74
```

- So here there is a calculator_evan class, here at first the user will be given 4 choices, namely addition, subtraction, multiplication, and finally division. If the user chooses an option that is not available in the menu, it will display the message "Invalid!!!!!" and will return to select the available menu. And in the division process, if the user enters the number 1 and number 2 which will produce invalid results, the message "Division with zero is invalid!!!!" will appear and will repeat again.