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**LAPORAN PRAKTIKUM**

**ALGORITMA DAN PEMROGRAMAN**

**Pertemuan Ke-2**

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**Disusun Oleh :**

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**2018**

**LISTING**

**Code 1**

public class TipeData1{

public static void main(String[]args){

int x=20;

System.out.println("x="+x);

x=25;

System.out.println("x="+x);

x=x+1;

System.out.println("x="+x);

x+=1;

System.out.println("x="+x);

x++;

System.out.println("x="+x);

}

}

Explanation :

Public is type of class and TipeData1 is the name of class.

Main use to begin every execution in java program.

Int is data type that describe integers

X is variabel

20 is value from x

System.out.println use to print number or character on screen

In this code the value of variable x begin with 20, then change to 25 then 25+1 three times so the output must be x= 20,25,26,27,28

**Code 2**

public class TipeData2{

public static void main(String[]args){

int y=20;

int x=y;

y++;

System.out.println("x="+x);

System.out.println("x="+y);

}

}

Explanation :

TipeData2 is the name of class.

This code purpose to show the output of variable value

In this code y is a variable and 20 is value.

System.out.ptint just show the output of x variable. So the output just x variable

**Code 3**

public class TipeData3{

public static void main(String[]args){

int x=9/2;

System.out.print("x="+x);

}

}

Explanation :

Name of class is TipeData3

Its describe how integer work

Int is data type, x is variable and 9/2 is value

Int just for an integer

9/2 = 4.5, but the data type is integer

So the output must be x = 4

But if the data type is float or double x = 4.5

**Code 4**

public class TipeData4{

public static void main(String[]args){

double x=9/2;

System.out.println("x="+x);

}

}

Explanation :

Its same with previous code

The differences is just data type

At previous code use integer but in this code use float data type

So the output must be use comma.

Actually the output is x=4.5 but I don’t know why the output screen show x=4.0

It will be our task to looking for the problem

**Code 5**

public class TipeData5{

public static void main(String[]args){

int x=10+20+30/3;

System.out.println("x="+x);

int y=10+20+(30/3);

System.out.println("x="+y);

int z=(10+20+30)/3;

System.out.println("x="+z);

int k= 25-5\*4/2-10+4;

System.out.println("x="+k);

}

}

Explanation :

This code describe the arithmetic logic that us \*, /, +, and –

All off it use int because it’s a number or integer

The output is show the answer from the task.

According to arithmetic logic we use first \* then / then + then –

But is exclude brackets, if there is bracket, it should be first

So the output must be x=40, y=40, z=20 and k=9

**Code 6**

public class TipeText1{

public static void main(String[]args){

char letter1='h';

char letter2='e';

char letter3='l';

char letter4='l';

char letter5='o';

System.out.println(letter1+letter2+letter3+letter4+letter5);

}

}

Explanation :

TipeText1 is the name of class

Char used because h, e, l, l, and o is character

System.out.println for output and the command ask to sum letter1+letter2+letter3+letter4+letter5 where the variable was h+e+l+l+o

That mean the output is total from hello variable

**Code 7**

public class TipeText2{

public static void main(String[]args){

String greeting="Hello World";

System.out.println(greeting);

}

}

Explanation :

This is the standart program code, its usually called hello world

But in here code is different.

It use String data type and greeting is variable nad hello world is value

Then in the System.out.println or its output just calling greeting because greeting represent hello world

So the output must be Hello World

**Code 8**

public class TipeText3{

public static void main(String[]args){

char shrit1Size='S';

char shrit2Size='M';

char shrit3Size='L';

String shrit4Size='XL';

String shrit5Size='XXL';

String shrit6Size="XXXL";

}

}

Explanation :

This code use data type char and String

And why not use char for all or why not use String for all?

Because char data type just can describe one alphabet

So its just use for S, M, and L value. Char can’t use for XL values because it use two alphabet.

It will be fine if we use String for two character or more, according to code String use for XL, XXL, and XXXL value

**Code 9**

public class Conversi1{

public static void main(String[]args){

int x=5;

double y=x;

System.out.println(y);

double z=9/2;

System.out.println(z);

double p=4;

System.out.println(p);

}

}

Explanation :

In this code we use int for (x) variable because 5 is its value and 5 is an integers

We use double for (y) variable then the output must be decimal number and the value is x, which is x=5

Then double for (z) variable because its fraction number

And the last we use double for variable p which is p=4 then the output will be decimal number

y=5.0 its become decimal because its use double data type

z=4.0 because its same use double data type

p=4.0, eventhought 4 is integer but it use double data type, so it must be decimal number , which is 4.0 is decimal number

**Code 10**

public class Conversi2{

public static void main(String[]args){

int longTolnt=(int)20L;

short doubleToShort=(short)3.0;

}

}

Explanation :

Class name is Conversi2

Int for integers

Long is primitive data type in java

Long describe a large integer

Double for decimal number

Short also primitive data type in java

**Code 11**

public class Conversi3{

public static void main(String[]args){

short a,b;

a=1;

b=2;

int c=a+b;

}

}

Explanation :

Class name is Conversi3

Short is primitive data type with 16 bit that use a and b variable

Variable a=1 value

Variable b=2 value

Int for integer, so the answer must be integer

Int c it means the new c will be a variable from a+b value

**Code 12**

public class Conversi4{

public static void main(String[]args){

int ageYears= Integer.parseInt("100");

double ageDays= Double.parseDouble("2.72");

long ageSeconds= ageYears\*365\*240\*60\*60;

System.out.println("You are "+ageDays+" days old.");

System.out.println("You are "+ageSeconds+" seconds old.");

}

}

Explanation :

Int for integer

ageYears is a variable

double for decimal number

ageSecond is a variable

parse return integer value but jus for decimal

ageDays output was 2.72

ageSecond output si multiple of 365\*240\*60\*60

**Code 13**

import javax.swing.JOptionPane;

public class Input1{

public static void main(String[]args){

String input=JOptionPane.showInputDialog("Type something :");

System.out.println(input);

}

}

Explanation :

JOptionPane is a class that prepare a dialog window

Input1 is the name of class

String is data type

System.out.println is input, so we will be input a number from the command that system request

**Code 14**

import java.util.Scanner;

public class Input2{

public static void main (String[]args){

Scanner sc=new Scanner(System.in);

int x=sc.nextInt();

double y=sc.nextDouble();

String z=sc.next();

System.out.println(x);

System.out.println(y);

System.out.println(z);

sc.close();

}

}

Explanation :

Scanner use to input number in command prompt

Class name is Input2

Int is data type for integer, so if we write integer in the command prompt the output will be integer too

Double is data type for decimal number, so if we put 2 in output it woll be 2.0

String is data type for text or number or other character. Not too different from int but cant do an arithmetic logic

**Code 15**

public class Person{

public static void main(String[]args){

int ageYears=32;

int ageDays=ageYears\*365;

long ageSeconds=ageYears\*365\*24L\*60\*60;

System.out.println("You are "+ageDays+" days old.");

System.out.println("You are "+ageSeconds+" seconds old.");

}

}

Explanation :

name of class is Person

int is data type for integer, ageYears is variable, and 32 is value from ageYears

int is data type for integer, ageDays is variable, and 365 is value from ageDays count from a years

long primitive data type for large number, so multiple 365\*24L\*60\*60

the output is ageDays and ageSecond

**LATIHAN**

import java.util.Scanner;

public class elektronik {

public static void main(String[]args){

String produk1,produk2,produk3;

produk1 = "Smartphone";

produk2 = "Laptop";

produk3 = "Printer";

int harga1,harga2,harga3;

harga1 = 2500000;

harga2 = 7250000;

harga3 = 500000;

System.out.println("========== Daftar Produk ===========");

System.out.println("1. "+produk1 +" dengan harga "+harga1+" ribu || ");

System.out.println("2. "+produk2+" dengan harga "+harga2+" ribu || ");

System.out.println("3. "+produk3+" dengan harga"+harga3+ "ribu || ");

System.out.println("====== Pilih produk (1,2,3) ========");

Scanner iProduk = new Scanner(System.in);

int produk = iProduk.nextInt();

if (produk == 1){

System.out.println("anda memilih produk "+produk1);

}if(produk == 2){

System.out.println("anda memilih produk "+produk2);

}if(produk == 3){

System.out.println("anda memilih produk "+produk3);

}

System.out.println("Silahkan masukkan jumlah yang ingin anda beli ");

Scanner iJumlah = new Scanner(System.in);

int jumlah = iJumlah.nextInt();

if (produk ==1){

int total1 = harga1\*jumlah;

System.out.println("Produk yang anda pilih "+produk1+" dengan harga "+harga1);

System.out.println("jumlah pesanan = "+jumlah);

System.out.println("total harga = harga x jumlah pesanan");

System.out.println("total harga ="+harga1+" x " +jumlah);

System.out.println("Harga Total = "+total1);

}if (produk ==2){

int total2 = harga2\*jumlah;

System.out.println("Produk yang anda pilih "+produk2+" dengan harga "+harga2);

System.out.println("jumlah pesanan = "+jumlah);

System.out.println("total harga = harga x jumlah pesanan");

System.out.println("total harga ="+harga2+" x " +jumlah);

System.out.println("Harga Total = "+total2);

}if (produk ==3){

int total3= harga3\*jumlah;

System.out.println("Produk yang anda pilih "+produk3+" dengan harga "+harga3);

System.out.println("jumlah pesanan = "+jumlah);

System.out.println("total harga = harga x jumlah pesanan");

System.out.println("total harga ="+harga3+" x " +jumlah);

System.out.println("Harga Total = "+total3);

}

}

**}**

Explanation :

1. We input product name with String data type
2. We input price with int data type because int for integer, but if we want input comma we must use float or double data type
3. We show product name, price and total
4. Scanner(system.in) used which is can input number in output command prompt
5. Harga1\*jumlah, to decided total price we multiple price and total product, also for price2 and price3

Above is sample for short explanation from exercise code