

Nama : Fitriaininda Nur Shafira

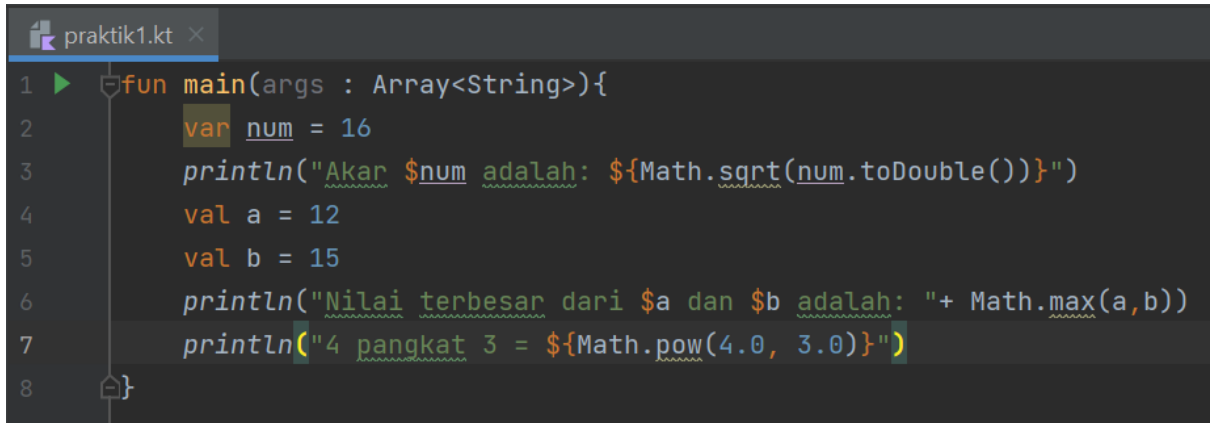
Kelas : XI RPL 3

No absen : 13

MODUL 2 KOTLIN

PRAKTIK

- 1.
2. Kode Program Praktik 1



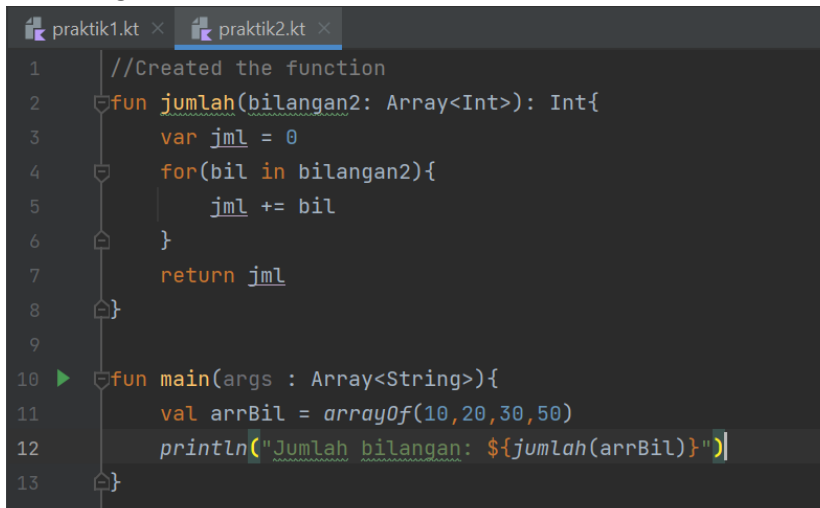
```
1 fun main(args : Array<String>){
2     var num = 16
3     println("Akar $num adalah: ${Math.sqrt(num.toDouble())}")
4     val a = 12
5     val b = 15
6     println("Nilai terbesar dari $a dan $b adalah: "+ Math.max(a,b))
7     println("4 pangkat 3 = ${Math.pow(4.0, 3.0)}")
8 }
```

3. Hasil Kode Program Praktik 1



```
Run: Praktik1Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Akar 16 adalah: 4.0
Nilai terbesar dari 12 dan 15 adalah: 15
4 pangkat 3 = 64.0
Process finished with exit code 0
```

4. Kode Program Praktik 2



```
1 //Created the function
2 fun jumlah(bilangan2: Array<Int>): Int{
3     var jml = 0
4     for(bil in bilangan2){
5         jml += bil
6     }
7     return jml
8 }
9
10 fun main(args : Array<String>){
11     val arrBil = arrayOf(10,20,30,50)
12     println("Jumlah bilangan: ${jumlah(arrBil)}")
13 }
```

Run

```
Praktik2Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Jumlah bilangan: 110

Process finished with exit code 0
```

```
praktik1.kt x praktik2.kt x
13 // }
14
15 fun jumlah(vararg bil2: Int): Int{
16     var jml = 0
17     bil2.forEach{
18         bil -> jml += bil
19     }
20     return jml
21 }
22
23 fun main(args : Array<String>){
24     println("Jumlah bilangan: ${jumlah( ...bil2: 10, 20, 30, 40)}")
25 }
```

5.

Run

```
Run: Praktik2Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Jumlah bilangan: 100

Process finished with exit code 0
```

```
praktik1.kt x praktik2.kt x
13 // }
14
15 fun jumlah(vararg bil2: Int): Int{
16     var jml = 0
17     bil2.forEach{
18         bil -> jml += bil
19     }
20     return jml
21 }
22
23 fun main(args : Array<String>){
24     println("Jumlah bilangan: ${jumlah(...bil2: 10, 20, 30, 40, 50, 60)}")
25 }
```

6.

Run

```
Run: Praktik2Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Jumlah bilangan: 210
Process finished with exit code 0
```

7. Kode Program Praktik 3

```
praktik1.kt x praktik2.kt x praktik3.kt x
1 fun main(args : Array<String>){
2     val jumlah = {bil1: Int, bil2: Int -> bil1 + bil2}
3     println("6 + 4 = ${jumlah(6,4)}")
4 }
```

Run

```
Run: Praktik3Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
6 + 4 = 10
Process finished with exit code 0
```

8.

```
praktik1.kt x praktik2.kt x praktik3.kt x
1 fun main(args : Array<String>){
2     val perkalian = {bil1: Int, bil2: Int, bil3: Int -> bil1 * bil2 * bil3}
3     println("6 x 4 x 5 = ${perkalian(6,4,5)}")
4 }
```

Run

```
Run: Praktik3Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
6 x 4 x 5 = 120
Process finished with exit code 0
```

9. Kode Program Praktik 4

```
praktik1.kt x praktik2.kt x praktik3.kt x praktik4.kt x
1 fun main(){
2     val upperCase1: (String) -> String = {str: String -> str.toUpperCase()}
3     val upperCase2: (String) -> String = {str -> str.toUpperCase()}
4     val upperCase3 = {str: String -> str.toUpperCase()}
5     val upperCase4: (String) -> String = {it.toUpperCase()}
6     val upperCase5: (String) -> String = String::toUpperCase
7
8     println(upperCase1("Hello"))
9     println(upperCase2("Hello"))
10    println(upperCase3("Hello"))
11    println(upperCase4("Hello"))
12    println(upperCase5("Hello"))
13 }
```

Run

```
Run: Praktik4Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
HELLO
HELLO
HELLO
HELLO
HELLO
Process finished with exit code 0
```

10. Kode Program Praktik 5

```
praktik1.kt x praktik2.kt x praktik3.kt x praktik4.kt x praktik5.kt x
1 fun main(args : Array<String>){
2     func( str: "BeginnersBook", ::demo)
3 }
4
5 fun func(str: String, myfunc: (String) -> Unit){
6     print("Welcome to Kotlin tutorial at ")
7     myfunc(str)
8 }
9
10 fun demo(str: String){
11     println(str)
12 }
```

Run

```
Run: Praktik5Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Welcome to Kotlin tutorial at BeginnersBook
Process finished with exit code 0
```

11. Kode Program Praktik 6

```
kt x praktik2.kt x praktik3.kt x praktik4.kt x praktik5.kt x praktik6.kt
1 fun main(args: Array<String>){
2     val sum = func( num: 10)
3     println("10 + 20: ${sum(20)}")
4 }
5
6 fun func(num: Int): (Int) -> Int = {num2 -> num2 + num}
```

Run

```
Run: Praktik6Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
10 + 20: 30
Process finished with exit code 0
```

12. Kode Program Praktik 7

```
kt x praktik3.kt x praktik4.kt x praktik5.kt x praktik6.kt x praktik7.kt x
1 fun main(args: Array<String>){
2     //creating the object of class Student
3     val mhs = Mahasiswa( nama: "Susi Susanti", umur: 23)
4     println("Nama : ${mhs.nama}")
5     println("Umur : ${mhs.umur}")
6 }
7
8 class Mahasiswa(val nama: String, var umur: Int){
9     //This is my class. For now I am leaving it empty
10 }
```

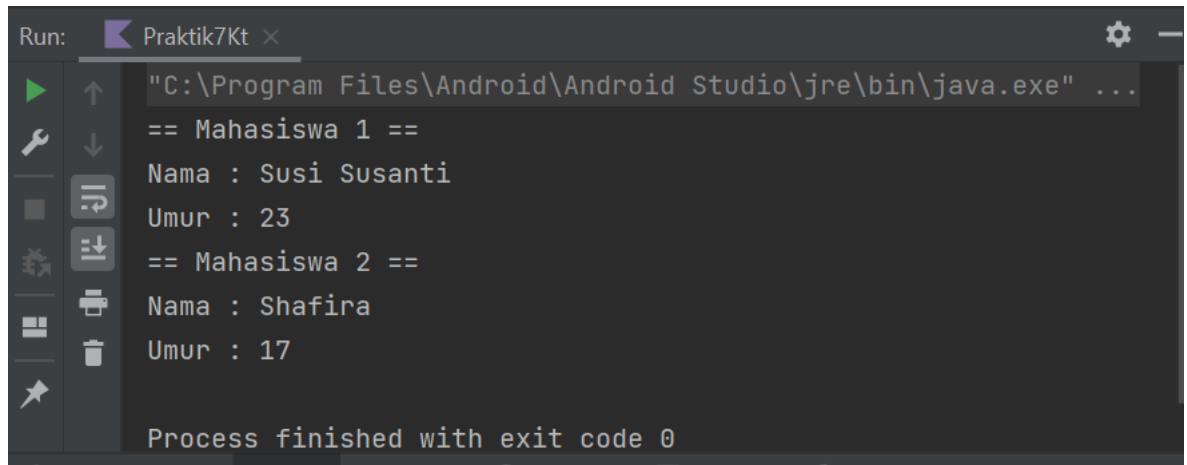
Run

```
Run: Praktik7Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Nama: Susi Susanti
Umur: 23
Process finished with exit code 0
```

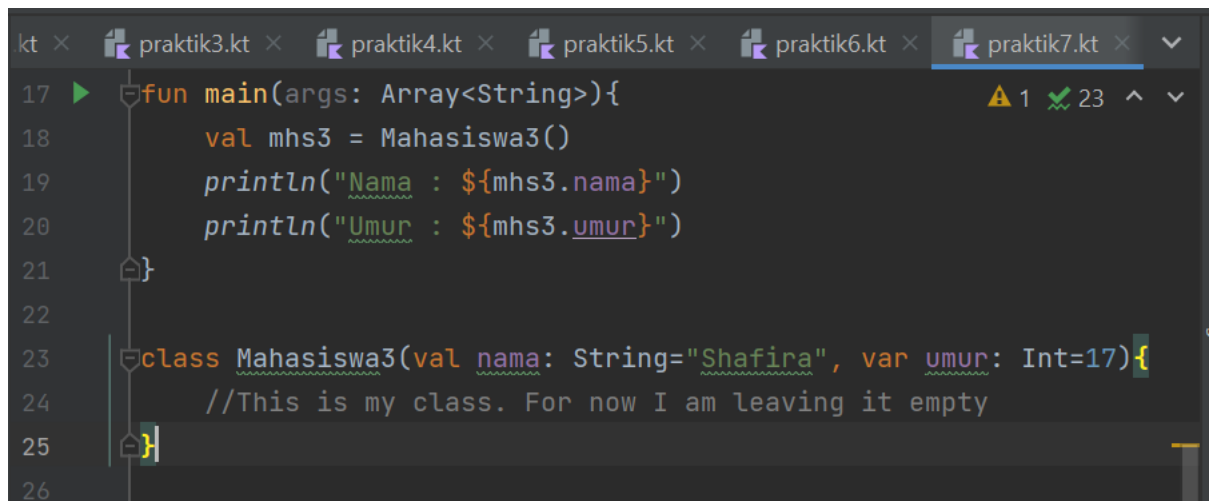
```
kt x praktik3.kt x praktik4.kt x praktik5.kt x praktik6.kt x praktik7.kt x
1 fun main(args: Array<String>){
2     //creating the object of class Student
3     val mhs = Mahasiswa( nama: "Susi Susanti", umur: 23)
4     val mhs2 = Mahasiswa( nama: "Shafira", umur: 17)
5     println("== Mahasiswa 1 ==")
6     println("Nama : ${mhs.nama}")
7     println("Umur : ${mhs.umur}")
8     println("== Mahasiswa 2 ==")
9     println("Nama : ${mhs2.nama}")
10    println("Umur : ${mhs2.umur}")
11 }
12
13 class Mahasiswa(val nama: String, var umur: Int){
14     //This is my class. For now I am leaving it empty
15 }
```

13.

Run



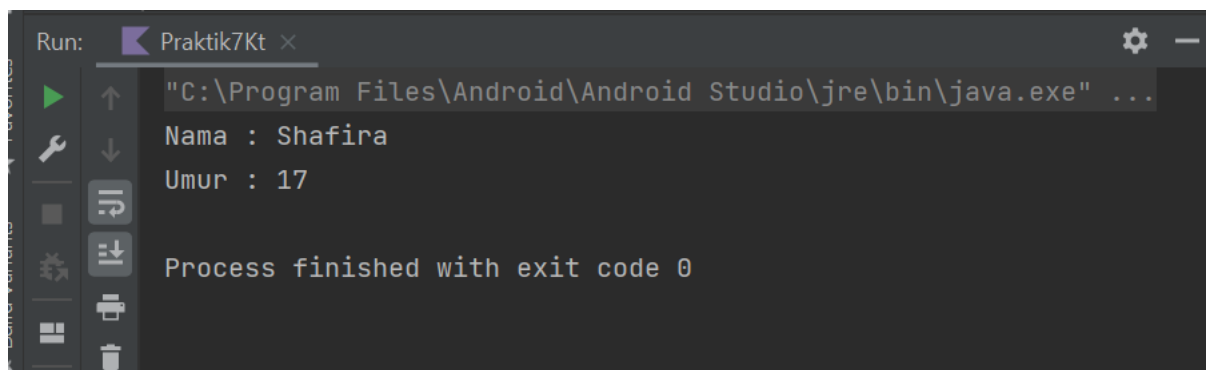
```
Run: Praktik7Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
== Mahasiswa 1 ==
Nama : Susi Susanti
Umur : 23
== Mahasiswa 2 ==
Nama : Shafira
Umur : 17
Process finished with exit code 0
```



```
17 fun main(args: Array<String>){
18     val mhs3 = Mahasiswa3()
19     println("Nama : ${mhs3.nama}")
20     println("Umur : ${mhs3.umur}")
21 }
22
23 class Mahasiswa3(val nama: String="Shafira", var umur: Int=17){
24     //This is my class. For now I am leaving it empty
25 }
26
```

14.

Run



```
Run: Praktik7Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Nama : Shafira
Umur : 17
Process finished with exit code 0
```

15. Kode Program Praktik 8

```
praktik1.kt x praktik2.kt x praktik3.kt x praktik4.kt x praktik5.kt x praktik6.kt x
1 fun main(args: Array<String>){
2     val mhs = Mahasiswa( nama: "Fitri", umur: 16)
3     val mhs1 = Mahasiswa( nama: "Shafira", umur: 17)
4     val mhs2 = Mahasiswa()
5 }
6 class Mahasiswa(val nama: String = "Mahasiswa", var umur: Int = 99){
7     val namaMhs: String
8     var umurMhs: Int
9     init {
10         if (nama == "Mahasiswa"){
11             namaMhs = "Ara"
12             umurMhs = 20
13         } else {
14             namaMhs = nama.toUpperCase()
15             umurMhs = umur
16         }
17         println("Nama : $namaMhs")
18         println("Umur : $umurMhs")
19     }
20 }
```

Run

```
Run: Praktik8Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Nama : FITRI
Umur : 16
Nama : SHAFIRA
Umur : 17
Nama : Ara
Umur : 20

Process finished with exit code 0
```


16. Kode Program Praktik 9

```
kt x praktik5.kt x praktik6.kt x praktik7.kt x praktik8.kt x praktik9.kt x
1 data class Mahasiswa(val nama: String, val umur: Int) {
2 fun main(args: Array<String>){
3     val mhs = Mahasiswa(nama: "Fitri", umur: 16)
4     val mhs1 = Mahasiswa(nama: "Shafira", umur: 17)
5     println("Nama Mahasiswa: ${mhs.nama}")
6     println("Umur Mahasiswa: ${mhs.umur}")
7     println("Nama Mahasiswa: ${mhs1.nama}")
8     println("Umur Mahasiswa: ${mhs1.umur}")
9 }
10
```

Run

```
Run: Praktik9Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Nama Mahasiswa: Fitri
Umur Mahasiswa: 16
Nama Mahasiswa: Shafira
Umur Mahasiswa: 17
Process finished with exit code 0
```

17. Kode Program Praktik 10

```
praktik1.kt x praktik2.kt x praktik3.kt x praktik4.kt x praktik5.kt x
1 import java.sql.Struct
2
3 data class Mahasiswa(val nama: String, val umur: Int)
4
5 fun main(args: Array<String>){
6     val mhs = Mahasiswa(nama: "Shafira", umur: 17)
7     val mhs2 = Mahasiswa(nama: "Shafira", umur: 17)
8     val mhs3 = Mahasiswa(nama: "Marsha", umur: 16)
9
10    if(mhs.equals(mhs2) == true)
11        println("mhs sama dengan mhs2.")
12    else
13        println("mhs tidak sama dengan mhs2.")
14
15    if(mhs.equals(mhs3) == true)
16        println("mhs tidak sama dengan mhs3.")
17
18    println("Hashcode dari mhs: ${mhs.hashCode()}")
19    println("Hashcode dari mhs2: ${mhs2.hashCode()}")
20    println("Hashcode dari mhs3: ${mhs3.hashCode()}")
21 }
```

Run

```
Run: Praktik10Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
mhs sama dengan mhs2.
Hashcode dari mhs: -690060525
Hashcode dari mhs2: -690060525
Hashcode dari mhs3: -1790822622
Process finished with exit code 0
```

18. Kode Program Praktik 11

```
praktik7.kt x praktik8.kt x praktik9.kt x praktik10.kt x praktik11.kt x
1      data class Mahasiswa(val nama: String, val umur: Int)
2
3      fun main(args: Array<String>){
4          val mhs = Mahasiswa(nama: "Susi Susanti", umur: 23)
5
6          //mengkopi umur dari objek mhs
7          val mhs2 = mhs.copy(nama = "Lusiana")
8
9          println("Nama ${mhs.nama}, Umur ${mhs.umur}")
10         println("Nama ${mhs2.nama}, Umur ${mhs2.umur}")
11     }
```

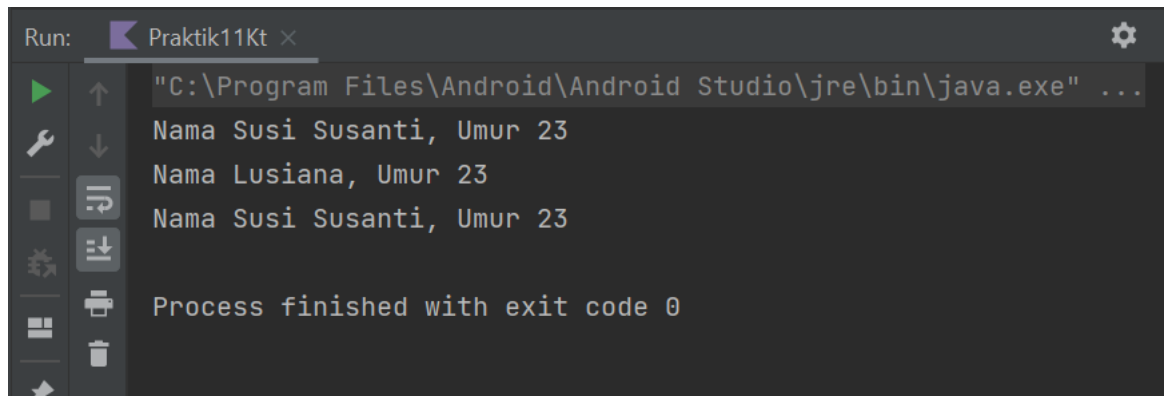
Run

```
Run: Praktik11Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Nama Susi Susanti, Umur 23
Nama Lusiana, Umur 23
Process finished with exit code 0
```

```
praktik7.kt x praktik8.kt x praktik9.kt x praktik10.kt x praktik11.kt x
1      data class Mahasiswa(val nama: String, val umur: Int)
2
3      fun main(args: Array<String>){
4          val mhs = Mahasiswa(nama: "Susi Susanti", umur: 23)
5
6          //mengkopi umur dari objek mhs
7          val mhs2 = mhs.copy(nama = "Lusiana")
8
9          println("Nama ${mhs.nama}, Umur ${mhs.umur}")
10         println("Nama ${mhs2.nama}, Umur ${mhs2.umur}")
11
12         val nama = mhs.component1()
13         val umur = mhs.component2()
14         println("Nama $nama, Umur $umur")
15     }
```

19.

Run



The screenshot shows the 'Run' console in Android Studio. The title bar indicates the file 'Praktik11Kt'. The console output shows the execution of a Java program using the Java Runtime Environment (JRE) located at 'C:\Program Files\Android\Android Studio\jre\bin\java.exe'. The program prints three lines of text: 'Nama Susi Susanti, Umur 23', 'Nama Lusiana, Umur 23', and 'Nama Susi Susanti, Umur 23'. The console concludes with the message 'Process finished with exit code 0'. On the left side of the console, there is a vertical toolbar with icons for running, debugging, and other development actions.

```
Run: Praktik11Kt ×  
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...  
Nama Susi Susanti, Umur 23  
Nama Lusiana, Umur 23  
Nama Susi Susanti, Umur 23  
  
Process finished with exit code 0
```

LATIHAN

1.

```
praktik2.kt x praktik3.kt x latihan1.kt x praktik5.kt x praktik6.kt x praktik7.kt x
1 fun main(args : Array<String>){
2     val pangkat = {bil1: Double, bil2: Double -> Math.pow(bil1, bil2)}
3     println("6 pangkat 3 = ${pangkat(6.0, 3.0)}")
4 }
```

Run

```
Run: Latihan1Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
6 pangkat 3 = 216.0
Process finished with exit code 0
```

2.

```
praktik2.kt x praktik3.kt x latihan1.kt x latihan2.kt x praktik6.kt x praktik7.kt x praktik8.kt x praktik9.kt x praktik10.kt x praktik11.kt x
1 fun main(args: Array<String>){
2     tampil()
3 }
4 class Barang(val nama: String="Kemeja", val harga: Double=80000.0, val jumlah: Double=5.0, val diskon: Double=0.50){
5 }
6
7 fun tampil(){
8     val barang = Barang()
9     println("Nama Barang = ${barang.nama}")
10    println("Harga = ${barang.harga}")
11    println("Jumlah = ${barang.jumlah}")
12    println("Diskon = ${barang.diskon}")
13    println(hitungTotal())
14 }
15 fun hitungTotal(){
16     val total = Barang()
17     println("Total Harga = ${total.harga * total.jumlah * (1-total.diskon)}")
18 }
```

Run

```
Run: Latihan2Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Nama Barang = Kemeja
Harga = 80000.0
Jumlah = 5.0
Diskon = 0.5
Total Harga = 200000.0
kotlin.Unit
Process finished with exit code 0
```

TUGAS

```
praktik2.kt x praktik3.kt x latihan1.kt x latihan2.kt x tugas1.kt x praktik7.kt
1 fun penjumlahan(){
2     val penjumlahan = {bil1: Int, bil2: Int -> bil1 + bil2 }
3     println("10 + 5 = ${jumlah( ...bil2: 10,5)}")
4 }
5
6 fun perkalian(){
7     val perkalian = {bil1: Int, bil2: Int -> bil1 * bil2 }
8     println("10 x 5 = ${perkalian(10,5)}")
9 }
10
11 fun pembagian(){
12     val pembagian = {bil1: Int, bil2: Int -> bil1 / bil2 }
13     println("10 / 5 = ${pembagian(10,5)}")
14 }
15
16 fun pengurangan(){
17     val pengurangan = {bil1: Int, bil2: Int -> bil1 - bil2 }
18     println("10 - 5 = ${pengurangan(10,5)}")
19 }
20
21 fun main(){
22     penjumlahan()
23     perkalian()
24     pembagian()
25     pengurangan()
}
```

1.

Run

```
Run: Tugas1Kt x
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
10 + 5 = 15
10 x 5 = 50
10 / 5 = 2
10 - 5 = 5
Process finished with exit code 0
```

```
praktik2.kt × praktik3.kt × latihan1.kt × latihan2.kt × tugas1.kt × tugas2.kt
1      import java.util.Scanner
2  ▶ fun main(){
3          val input = Scanner(System.`in`)
4          println("Menghitung Keliling dan Luas Persegi Panjang")
5          println("Masukkan panjang = ")
6          val panjang = input.nextInt()
7          println("Masukkan lebar = ")
8          val lebar = input.nextInt()
9          val keliling = 2 * (panjang + lebar)
10         val luas = panjang * lebar
11         println("Keliling dari persegi panjang adalah = $keliling")
12         println("Luas dari persegi panjang adalah = $luas")
13     }
```

2.

Run

```
Run: Tugas2Kt ×
▶ ↑ "C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
⚙ ↓ Menghitung Keliling dan Luas Persegi Panjang
☐ ⌵ Masukkan panjang =
⌵ 8
📷 ⌵ Masukkan lebar =
🔧 ⌵ 4
➡ 🗑 Keliling dari persegi panjang adalah = 24
☐ 🗑 Luas dari persegi panjang adalah = 32
☐
➡ Process finished with exit code 0
```