Nama : Fitrianinda Nur Shafira

Kelas : XI RPL 3

No absen : 13

MODUL 2 KOTLIN

PRAKTIK

1.
2. Kode Program Praktik 1

praktik1.kt

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

3. Hasil Kode Program Praktik 1

Run: Praktik1Kt

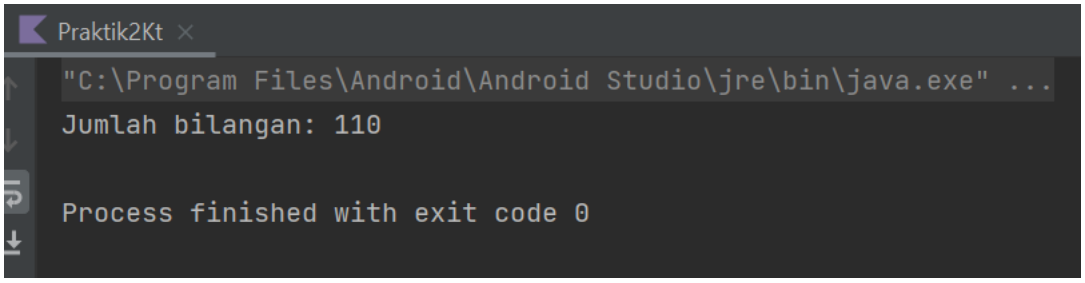
```
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Akar 16 adalah: 4.0
Nilai terbesar dari 12 dan 15 adalah: 15
4 pangkat 3 = 64.0

Process finished with exit code 0
```

4. Kode Program Praktik 2

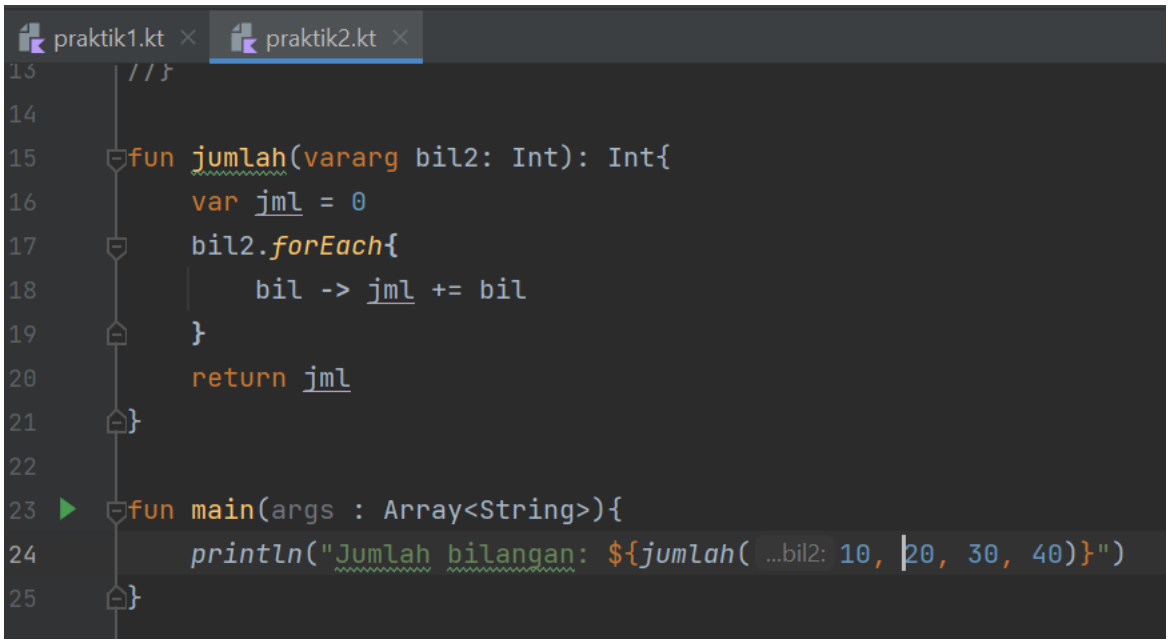
praktik1.kt praktik2.kt

```
//Created the function
fun jumlah(bilangan2: Array<Int>): Int{
    var jml = 0
    for(bil in bilangan2){
        jml += bil
    }
    return jml
}

fun main(args : Array<String>){
    val arrBil = arrayOf(10,20,30,50)
    println("Jumlah bilangan: ${jumlah(arrBil)}")
}
```

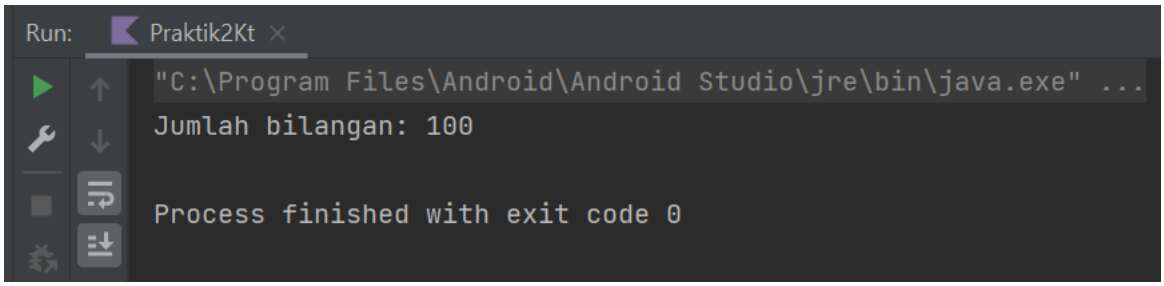
Run


Praktik2Kt
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Jumlah bilangan: 110
Process finished with exit code 0

5.


praktik1.kt
praktik2.kt
//}
fun jumlah(vararg bil2: Int): Int{
var jml = 0
bil2.forEach{
bil -> jml += bil
}
return jml
}
fun main(args : Array<String>){
println("Jumlah bilangan: ${jumlah(...bil2: 10, 20, 30, 40)}")
}

Run


Run:
Praktik2Kt
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Jumlah bilangan: 100
Process finished with exit code 0

6.

praktik1.kt | praktik2.kt

```
//}

fun jumlah(vararg bil2: Int): Int{
    var jml = 0
    bil2.forEach{
        bil -> jml += bil
    }
    return jml
}

fun main(args : Array<String>){
    println("Jumlah bilangan: ${jumlah( ...bil2: 10, 20, 30, 40, 50, 60)}")
}
```

Run

```
Run: Praktik2Kt
"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 | praktik2.kt | praktik3.kt

```
fun main(args : Array<String>){
    val jumlah = {bil1: Int, bil2: Int -> bil1 + bil2}
    println("6 + 4 = ${jumlah(6,4)}")
}
```

Run

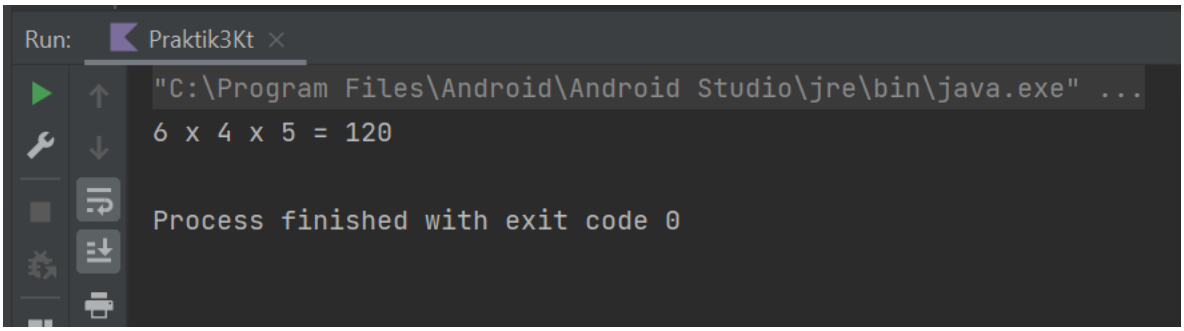
```
Run: Praktik3Kt
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
6 + 4 = 10

Process finished with exit code 0
```

8.

praktik1.kt | praktik2.kt | praktik3.kt

```
fun main(args : Array<String>){
    val perkalian = {bil1: Int, bil2: Int, bil3: Int -> bil1 * bil2 * bil3}
    println("6 x 4 x 5 = ${perkalian(6,4,5)}")
}
```

Run



9. Kode Program Praktik 4

praktik1.kt | praktik2.kt | praktik3.kt | praktik4.kt

```
fun main(){
    val upperCase1: (String) -> String = {str: String -> str.toUpperCase()}
    val upperCase2: (String) -> String = {str -> str.toUpperCase()}
    val upperCase3 = {str: String -> str.toUpperCase()}
    val upperCase4: (String) -> String = {it.toUpperCase()}
    val upperCase5: (String) -> String = String::toUpperCase

    println(upperCase1("Hello"))
    println(upperCase2("Hello"))
    println(upperCase3("Hello"))
    println(upperCase4("Hello"))
    println(upperCase5("Hello"))
}
```

Run

10. Kode Program Praktik 5

praktik1.kt praktik2.kt praktik3.kt praktik4.kt praktik5.kt

```
fun main(args : Array<String>){
    func( str: "BeginnersBook", ::demo)
}

fun func(str: String, myfunc: (String) -> Unit){
    print("Welcome to Kotlin tutorial at ")
    myfunc(str)
}

fun demo(str: String){
    println(str)
```

Run

Run: Praktik5Kt

```
"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 praktik2.kt praktik3.kt praktik4.kt praktik5.kt praktik6.

```
fun main(args: Array<String>){
    val sum = func( num: 10)
    println("10 + 20: ${sum(20)}")
}

fun func(num: Int): (Int) -> Int = {num2 -> num2 + num}
```

Run

Run: Praktik6Kt

```
"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 × praktik3.kt × praktik4.kt × praktik5.kt × praktik6.kt × praktik7.kt ×
1  fun main(args: Array<String>){                                  ⚠ 1  ✓ 6
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 }
```

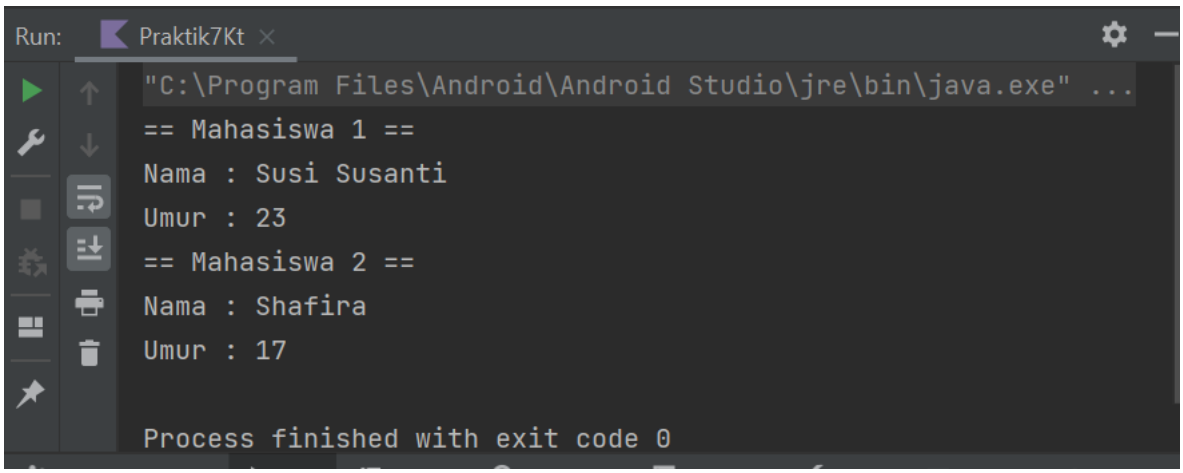
Run

```
Run:  Praktik7Kt ×
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
Nama: Susi Susanti
Umur: 23

Process finished with exit code 0
```

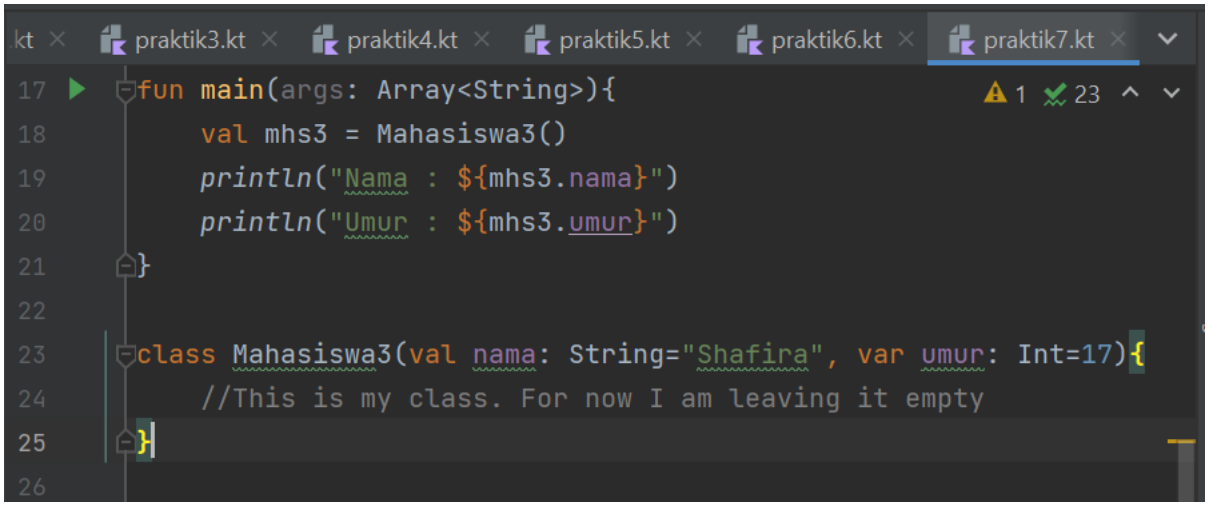
13.

```
kt × praktik3.kt × praktik4.kt × praktik5.kt × praktik6.kt × praktik7.kt ×
1  fun main(args: Array<String>){                                  ⚠ 1  ✓ 11
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
```

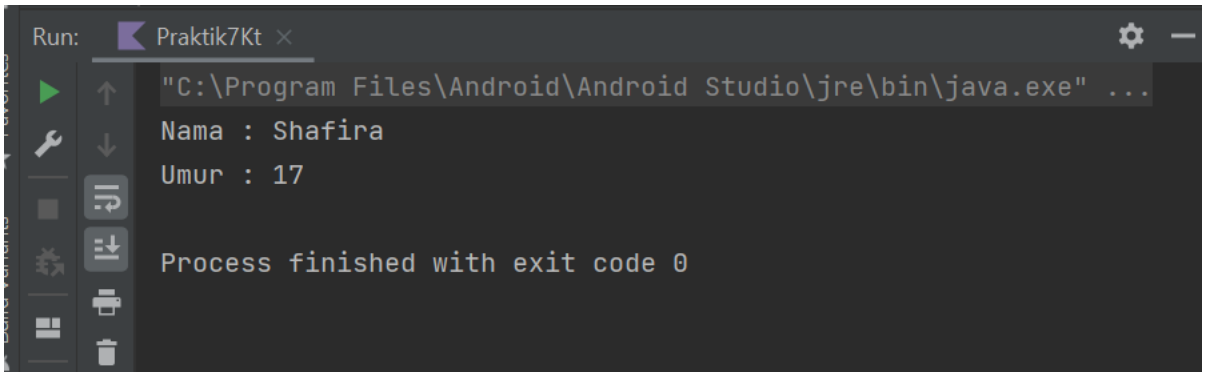
Run


Run:
Praktik7Kt
"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

14.


praktik3.kt
praktik4.kt
praktik5.kt
praktik6.kt
praktik7.kt
fun main(args: Array<String>){
val mhs3 = Mahasiswa3()
println("Nama : ${mhs3.nama}")
println("Umur : ${mhs3.umur}")
}
class Mahasiswa3(val nama: String="Shafira", var umur: Int=17){
//This is my class. For now I am leaving it empty
}

Run


Run:
Praktik7Kt
"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 | praktik2.kt | praktik3.kt | praktik4.kt | praktik5.kt | praktik6.kt

```
fun main(args: Array<String>){
    val mhs = Mahasiswa( nama: "Fitri",  umur: 16)
    val mhs1 = Mahasiswa( nama: "Shafira",  umur: 17)
    val mhs2 = Mahasiswa()
}
class Mahasiswa(val nama: String = "Mahasiswa", var umur: Int = 99){
    val namaMhs: String
    var umurMhs: Int
    init {
        if (nama == "Mahasiswa"){
            namaMhs = "Ara"
            umurMhs = 20
        } else {
            namaMhs = nama.toUpperCase()
            umurMhs = umur
        }
        println("Nama : $namaMhs")
        println("Umur : $umurMhs")
    }
}
```

Run

16. Kode Program Praktik 9

Run

17. Kode Program Praktik 10

praktik1.kt | praktik2.kt | praktik3.kt | praktik4.kt | praktik5.kt

```
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  }
```

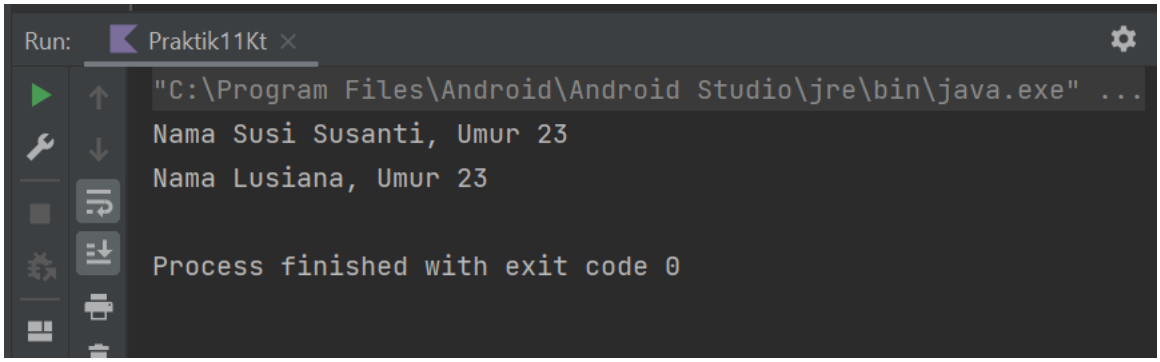
Run

Run: Praktik10Kt

```
"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

Run



19.

Run


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 | praktik3.kt | latihan1.kt | praktik5.kt | praktik6.kt | praktik7.kt

```
fun main(args : Array<String>){
    val pangkat = {bil1: Double, bil2: Double -> Math.pow(bil1, bil2)}
    println("6 pangkat 3 = ${pangkat(6.0, 3.0)}")
}
```

Run

```
Run: Latihan1Kt
"C:\Program Files\Android\Android Studio\jre\bin\java.exe" ...
6 pangkat 3 = 216.0

Process finished with exit code 0
```

2.

praktik2.kt | praktik3.kt | latihan1.kt | latihan2.kt | praktik6.kt | praktik7.kt | praktik8.kt | praktik9.kt | praktik10.kt

```
fun main(args: Array<String>){
    tampil()
}
class Barang(val nama: String="Kemeja", val harga: Double=80000.0, val jumlah: Double=5.0, val diskon: Double=0.50){

}
fun tampil(){
    val barang = Barang()
    println("Nama Barang = ${barang.nama}")
    println("Harga = ${barang.harga}")
    println("Jumlah = ${barang.jumlah}")
    println("Diskon = ${barang.diskon}")
    println(hitungTotal())
}
fun hitungTotal(){
    val total = Barang()
    println("Total Harga = ${total.harga * total.jumlah * total.diskon}")
}
```

Run

```
Run: Latihan2Kt
"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

1.

praktik2.kt | praktik3.kt | latihan1.kt | latihan2.kt | tugas1.kt | praktik7.kt

```
fun penjumlahan(){
    val penjumlahan = {bil1: Int, bil2: Int -> bil1 + bil2 }
    println("10 + 5 = ${jumlah( ...bil2: 10,5)}")
}

fun perkalian(){
    val perkalian = {bil1: Int, bil2: Int -> bil1 * bil2 }
    println("10 x 5 = ${perkalian(10,5)}")
}

fun pembagian(){
    val pembagian = {bil1: Int, bil2: Int -> bil1 / bil2 }
    println("10 / 5 = ${pembagian(10,5)}")
}

fun pengurangan(){
    val pengurangan = {bil1: Int, bil2: Int -> bil1 - bil2 }
    println("10 - 5 = ${pengurangan(10,5)}")
}

fun main(){
    penjumlahan()
    perkalian()
    pembagian()
    pengurangan()
```

Run

Run: Tugas1Kt

```
"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
```

2.

praktik2.kt | praktik3.kt | latihan1.kt | latihan2.kt | tugas1.kt | tugas2.kt

```kt
import java.util.Scanner
fun main(){
    val input = Scanner(System.`in`)
    println("Menghitung Keliling dan Luas Persegi Panjang")
    println("Masukkan panjang = ")
    val panjang = input.nextInt()
    println("Masukkan lebar = ")
    val lebar = input.nextInt()
    val keliling = 2 * (panjang + lebar)
    val luas = panjang * lebar
    println("Keliling dari persegi panjang adalah = $keliling")
    println("Luas dari persegi panjang adalah = $luas")
}
```

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
```