

# Software Development Certification



# VARIABLES

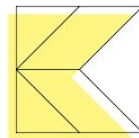
Kotlin uses two different keywords to declare variables: `val` and `var`.

- Use `val` for a variable whose value never changes. You can't re assign a value to a variable that was declared using `val`.
- Use `var` for a variable whose value can change.

# Adding Two integers

```
fun main(){  
  val x = 10  
  val y = 20  
  val sum =(x+y) // Declare sum  
  print("sum is $sum")}
```

same as of the product



# Float

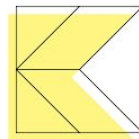
```
fun main(){  
    val x = 2.0f  
    val y = 1.5f  
    val product =(x*y)  
    print("product is $product")  
} // same as sum
```



# Kotlin Program to Compute Quotient and Remainder

compute quotient and remainder from the given dividend and divisor in Kotlin.

```
fun main() {  
  
    val dividend = 25  
    val divisor = 4  
  
    val quotient = dividend / divisor  
    val remainder = dividend % divisor  
  
    println("Quotient = $quotient")  
    println("Remainder = $remainder")  
}
```



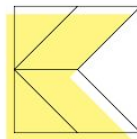
# Kotlin for Loop

In Kotlin, `for` loop is used to iterate through ranges, arrays, maps and so on (anything that provides an iterator).

## Example: Iterate Through a Range

```
fun main() {  
    for (i in 1..5){  
        print(i) }  
}
```

//OUTPUT Here, the loop iterates through the range and prints individual item.



# String concatenation

```
val numberOfDogs = 3
```

```
val numberOfCats = 2
```

```
"I have $numberOfDogs dogs" + " and $numberOfCats cats"
```

```
=> I have 3 dogs and 2 cats
```

# String templates

A template expression starts with a dollar sign (\$) and can be a simple value:

```
val i = 10  
println("i = $i")  
=> i = 10
```

Or an expression inside curly braces:

```
val s = "abc"  
println("$s.length is ${s.length}")  
=> abc.length is 3
```



# Specifying the variable type

## Colon Notation

```
var width: Int = 12
```

```
var length: Double = 2.5
```

**Important:** Once a type has been assigned by you or the compiler, you can't change the type or you get an error.

# TASK



*Find the area of a rectangle*

# Control flow

Kotlin features several ways to implement conditional logic:

- If/Else statements
- When statements
- For loops
- While loops

# if/else statements

```
fun main() {  
  
    val numberOfcups = 30  
  
    val numberOfplates = 50  
  
    if (numberOfcups > numberOfplates){  
  
        print("too many plates")  
  
    }else{  
  
        print("Not enough cups!") }  
}
```

# if statement with multiple cases

```
val guests = 30
if (guests == 0) {
    println("No guests")
} else if (guests < 20) {
    println("Small group of people")
} else {
    println("Large group of people!")
}
```

⇒ Large group of people!

# TASK

For loops

Write a program which prints 4 pets