**Development Scenario 1: Personal Finance Tracker**

**Day 1: Introduction and Setup and Variables and Control Structures**

**Task 1:** Install Kotlin and configure IntelliJ IDEA. Verify the setup by running a "Hello, World!" program.

package task1to4  
fun main(){  
 *println*("Hello,World!")  
}

//Output

Hello,World!

**Task 2:** Explore Kotlin REPL (Read-Eval-Print Loop) to familiarize with Kotlin syntax and basicoperations.

**package task1to4  
fun calculator(num1:Double,num2:Double,operation:String):Double?{  
 return when(operation){  
 "+"->num1+num2  
 "-"->num1-num2  
 "\*"->num1\*num2  
 "/"->if(num2!=0.0)num1/num2 else null  
 else->null  
 }  
}  
fun main(){  
 val num1 = 10.0  
 val num2 = 5.0  
 val operation = "+"  
 val result = *calculator*(num1, num2, operation)  
 if (result != null) {  
 *println*("Result: $result")  
 } else {  
 *println*("Invalid operation or division by zero!")  
 }  
 *println*(*calculator*(10.0, 5.0, "+"))  
 *println*(*calculator*(10.0, 5.0, "-"))  
 *println*(*calculator*(10.0, 5.0, "\*"))  
 *println*(*calculator*(10.0, 0.0, "/"))  
}**

**//Output**

**Result: 15.0**

**15.0**

**5.0**

**50.0**

**Null**

**Task 3:** Create a Transaction class with properties such as amount, date, and category.

**package task1to4  
import java.util.Date  
class Transaction(val amount:Double, val date:Date, val category:String) {  
 fun displayTransactionDetails() {  
 *println*("Transaction Details:")  
 *println*("Amount: \$${amount}")  
 *println*("Date: ${date}")  
 *println*("Category: ${category}")  
 }  
}  
fun main(){  
 val transaction = Transaction(amount = 50.75,date = Date(),category = "Transportation")  
 transaction.displayTransactionDetails()  
}**

**//Output**

**Transaction Details:**

**Amount: $50.75**

**Date: Tue Jan 14 07:28:18 IST 2025**

**Category: Transportation**

**Task 4:** Implement control structures to categorize transactions (e.g., Food, Utilities, Entertainment) using when statements.

package task1to4  
import java.util.\*  
class Transactions(val amount:Double, val date: Date,val category:String ) {  
 fun categorizeTransaction(){  
 when(category){  
 "Food" -> *println*("This is a Food transaction.")  
 "Entertainment" -> *println*("This is an Entertainment transaction.")  
 "Transportation" -> *println*("This is a Transportation transaction.")  
 "Health" -> *println*("This is a Health transaction.")  
 else -> *println*("This transaction doesn't fall into a known category.")  
 }  
 }  
 fun displayTransactionDetails() {  
 *println*("Transaction Details:")  
 *println*("Amount: \$${amount}")  
 *println*("Date: ${date}")  
 *println*("Category: ${category}")  
 categorizeTransaction()  
 }  
}  
fun main(){  
 val transaction1 = Transaction(amount = 100.50,date = Date(),category = "Food")  
 transaction1.displayTransactionDetails()  
 val transaction2 = Transaction(amount = 200.50,date = Date(),category = "Entertainment")  
 transaction2.displayTransactionDetails()  
 val transaction3 = Transaction(amount = 300.50,date = Date(),category = "Movie")  
 transaction3.displayTransactionDetails()  
}

//Output  
**Transaction Details:**

**Amount: $100.5**

**Date: Tue Jan 14 07:29:51 IST 2025**

**Category: Food**

**Transaction Details:**

**Amount: $200.5**

**Date: Tue Jan 14 07:29:51 IST 2025**

**Category: Entertainment**

**Transaction Details:**

**Amount: $300.5**

**Date: Tue Jan 14 07:29:51 IST 2025**

**Category: Movie**