Bridge Course - Day 02

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Activity 1: Everyday Decisions

- Think of three common decisions you make daily.
- Write them in format of If [condition] and Then[action].
- How would a computer represent these decisions using java syntax?

1.1 Algorithm:

Step 1: Start
Step 2: Check the time
    If time < 7:00 AM
    Then get out of bed
Step 3: Check the weather
    If it is raining
    Then carry an umbrella
    Else no need to carry umbrella
Step 4: Check phone battery level
    If battery level < 20%
    Then charge the phone
    Else don't charge the phone

1.2 Pseudocode:

```
start
// decision 1: wake up time
read time
if time < 7 then
                display "get out of bed"
else
                display "stay in bed"

// decision 2: weather check
read israining
if israining = true then
        display "carry an umbrella"
else
        display "no need to carry an umbrella"

// decision 3: phone charging
read batterylevel
if batterylevel < 20 then
         display "charge the phone"
else
public class wakeup{
        public static void main(string[] args){
end
```

1.3 Code:

1.3.1 Decision: Wake Up Time

```
Public class WakeUp{
        Public static void main(String[] args){
        int time = 8;
                if (time > 7) {
                        System.out.println("Get out of bed");
        }
}
```

1.3.2 Decision: Weather Check

```
Public class Weather{
        Public static void main(String[] args){
        boolean isRaining=true;
                if (isRaining) {
                        System.out.println("Carry an umbrella");
        }
}
```

1.3.3 Decision: Charging Phone

```
Public class Weather{
        Public static void main(String[] args){
        int battery = 15;
                if (battery < 20) {
                        System.out.println("Charge the phone");
        }
}
```

1.4 Output:

```
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %  cd /Users/sariyamazhar/Desktop/StemUp\ BridgeCourse ; /usr/bin/env /Library/Java/JavaVirtualMac
hines/jdk-24.jdk/Contents/Home/bin/java --enable-preview -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/sariyamazhar/Library/Application\ Support/
Code/User/workspaceStorage/470f142dc3020e2428b4528a3fc774c2/redhat.java/jdt_ws/StemUp\ BridgeCourse_994dd6f4/bin program11
Carry Umbrella
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %  cd /Users/sariyamazhar/Desktop/StemUp\ BridgeCourse ; /usr/bin/env /Library/Java/JavaVirtualMac
hines/jdk-24.jdk/Contents/Home/bin/java --enable-preview -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/sariyamazhar/Library/Application\ Support/
Code/User/workspaceStorage/470f142dc3020e2428b4528a3fc774c2/redhat.java/jdt_ws/StemUp\ BridgeCourse_994dd6f4/bin program11
Get out of bed
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %  cd /Users/sariyamazhar/Desktop/StemUp\ BridgeCourse ; /usr/bin/env /Library/Java/JavaVirtualMac
hines/jdk-24.jdk/Contents/Home/bin/java --enable-preview -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/sariyamazhar/Library/Application\ Support/
Code/User/workspaceStorage/470f142dc3020e2428b4528a3fc774c2/redhat.java/jdt_ws/StemUp\ BridgeCourse_994dd6f4/bin program11
Charge the phone
```

Activity 2: Computer's "Thoughts"

- Imagine a simple smart home device.
- Write two decisions it might need to make in daily use.
- Describe the condition and corresponding action in pseudocode or java code.

2.1 Algorithm:

Step 1: Start
Step 2: Detect for fire
if SmokeDetected = true
print alert
else
print "No smoke detected. All clear."
Step 3: Detect the Temperature
if temperature > 32
print "Turn ON the fan"
else
print "Turn OFF the fan"
Step 4: Stop

2.2 Pseudocode:

```
// Smoke Detection
if smokedetected = true then
    trigger fire alarm
    display "fire alert!"
else
    display "no smoke detected.."

//Temperature Checking
if temperature > 32 then
    turn on fan
else
    turn off fan
```

2.3 Code:

```
public class program12 {
    public static void main(String[] args) {
        boolean Smoke=true;
        if(Smoke){
            System.err.println("Smoke Detected!");
        }else{
            System.out.println("No Smoke Detected");
        }}}
```

```
public class program12 {
        public static void main(String[] args) {
                int Temp=35;
                 if(Temp>32){
                      System.out.println("Turn on the fan");
                }else{
                      System.out.println("No fan needed");
                }
           }
      }
```

2.4 Output:

Activity 3: Age Checker

- Declare an int variable myAge and assign your age to it.
- Write expressions using comparison operators to check if:
  - myAge is equal to 25.
  - myAge is greater than 18.
  - myAge is less than or equal to 65.
  - myAge is not equal to 30.
- Print the Boolean result of each expression using System.out.println().

3.1 Algorithm:

Step 1: Start

Step 2: Declare an integer variable myAge and assign your age.

Step 3: Check if myAge is equal to 25

Step 4: Check if myAge is greater than 18

Step 5: Check if myAge is less than or equal to 65

Step 6: Check if myAge is not equal to 30

Step 7: Display the result (true or false) of each comparison

Step 8: Stop

3.2 Pseudocode:

```
Start
        declare myAge as integer
        set myage = 21
        display "myAge == 25: "
        display "mAge > 18: "
        display "myAge <= 65: "
        display "myAge != 30: "
End
```

3.3 Code:

```
public class program13 {
    public static void main(String[] args) {
        int myAge = 21;

        if(myAge<=0){
            System.out.println("Age cannot be zero or negative");

        }else{

        System.out.println("myAge == 25: " + (myAge == 25));
        System.out.println("myAge > 18: " + (myAge > 18));
        System.out.println("myAge <= 65: " + (myAge <= 65));
        System.out.println("myAge != 30: " + (myAge != 30));
    }}}
```

3.4 Output

Case 1: if the age is negative or zero

```
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %  co
hines/jdk-24.jdk/Contents/Home/bin/java --enable-preview
Code/User/workspaceStorage/470f142dc3020e2428b4528a3fc774
Age cannot be zero or negative
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %
```

Case 2: if my age is 21 my output is:

```
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %
hines/jdk-24.jdk/Contents/Home/bin/java --enable-previe
Code/User/workspaceStorage/470f142dc3020e2428b4528a3fc7
myAge == 25: false
myAge > 18: true
myAge <= 65: true
myAge != 30: true
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %
```

Case 3: if my age is 98 my output is:

```
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %
hines/jdk-24.jdk/Contents/Home/bin/java --enable-previe
Code/User/workspaceStorage/470f142dc3020e2428b4528a3fc7
myAge == 25: false
myAge > 18: true
myAge <= 65: false
myAge != 30: true
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %
```

Activity 4: Login Credentials

- Declare two String variables: username = "admin" and password = "password123".
- Declare two more variables: enteredUsername and entered Password, and assign some test values.
- Write a logical expression that returns true only if both username and password match.

4.1 Algorithm:

Step1: Start

Step 2: Declare username as "admin"

Step 3: Declare password as "password123"

Step 4: Prompt the user to enter their username

Step 5: Read input and store it in username1

Step 6: Prompt the user to enter their password

Step 7: Read input and store it in password1

Step 8: Compare username with username1 using string comparison

Step 9: Compare password with password1 using string comparison

Step 10: If both match:

Display "true"

Else:

Display "false"

Step 11: End

4.2 Pseudocode:

```
start
set username ← "admin"
set password ← "password123"
display "enter your username"
read username1
display "enter your password"
read password1
if username = username1 and password = password1 then
    display "true"
else
    display "false"
End
```

4.3 Code:

```
public class program14 {
    public static void main(String[] args) {
        String username="admin";
        String password="password123";
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter your username");
        String username1=sc.nextLine();
        System.out.println("Enter your password");
        String password1=sc.nextLine();
        if((username.equals(username1))&& password.equals(password1)){
            System.out.println("true ");
        }else{
            System.out.println("false");
        }
        }
    }
```

4.4 Output:

Case1: same as user input

```
Code/User/workspaceStorage/470f142dc3020e2428b4528a3fc7
Enter your username
admin
Enter your password
password123
true
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %
```

Case2: different as user input

```
Code/User/workspaceStorage/470f142dc3020e2428b4528a3fc
Enter your username
sariya
Enter your password
password123
false
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %
```

Case3: different username and password

```
Code/User/workspaceStorage/470f142dc3020e2428b4528a3fc774
Enter your username
sariya
Enter your password
123
false
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %
```

Activity 5: Number Range

- Declare an int variable num and assign it a value.
- Check whether num is:
- Greater than 10 AND less than 20.
- Less than 5 OR greater than 100.
- Print the results.

5.1 Algorithm:

Step 1: Start
Step 2: Declare and initialize an integer variable num with the value 103
Step 3: Check if num is greater than 10 and less than 20
Step 4: Print the result of the condition in a descriptive sentence
Step 5: Check if num is less than 5 or greater than 100
Step 6: Print the result of the second condition in a descriptive sentence

5.2 Pseudocode:

```
start
set num ← 103
if num > 10 and num < 20 then
    print num + " greater than 10 and less than 20 is true"
else
    print num + " greater than 10 and less than 20 is false"
endif
```

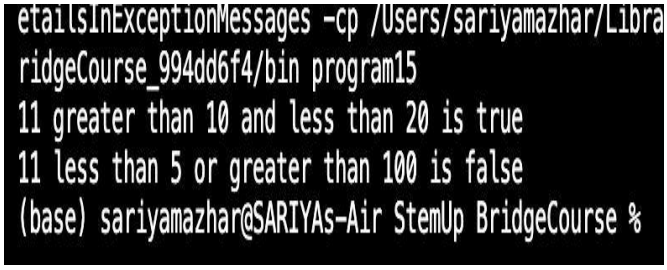
```
if num < 5 or num > 100 then
    print num + " less than 5 or greater than 100 is true"
else
    print num + " less than 5 or greater than 100 is false"
endif
Stop
```

5.3 Code:

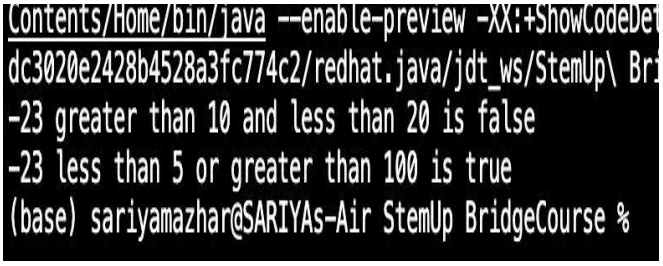
```
public class program15 {
    public static void main(String[] args) {
        int num=103;

        System.out.println(num+" greater than 10 and less than 20 is " + (num>10 && num<20));
        System.out.println(num+" less than 5 or greater than 100 is " + (num<5 || num>100));
    }
}
```

5.4 Output:

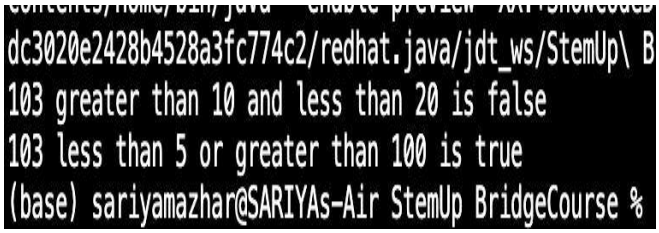
Case 1: if my input is 11



Case 2: if my number is -23



Case 3: if my input is 103



Activity 6: Operator Precedence Challenge

- Given the expressions: 5+3*2>10&&!(7==)
- Break it down step-by-step.
- Show the result after each stage of the operation and determines its final Boolean value.

6.1 Algorithm:

Step 1: Evaluate the arithmetic expression 5 + 3 * 2
Step 2: Check if the result is greater than 10
Step 3: Evaluate the logical NOT of the expression 7 == 7
Step 4: Combine both conditions using the logical AND (&&) operator
Step 5: Store the final result in a boolean variable result
Step 6: Print the result with a descriptive message

6.2 Pseudocode:

start
compute expression ← 5 + 3 * 2 > 10 and not (7 == 7)
set result ← value of expression
print "result of the expression 5 + 3 * 2 > 10 && !(7 == 7): " + result
Stop

6.3 Code:

```
public class program16 {
	public static void main(String[] args) {
		boolean result = 5 + 3 * 2 > 10 && !(7 == 7);
		System.out.println("Result of the expression 5 + 3 * 2 > 10 && !(7 == 7): " + result);
	}
}
```

6.4 Output:

Case1:

```
dc3020e2428b4528a3fc774c2/redhat.java/jdt_ws/StemUp\ B
103 greater than 10 and less than 20 is false
103 less than 5 or greater than 100 is true
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %
```

Activity 7: Positive, Negative, or Zero

- Get an integer input from the user using Scanner.
- Write an if-else if-else structure that:
- Prints "Positive" if the number is greater than 0.
- Prints "Negative" if the number is less than 0.
- Prints "Zero" if the number is exactly 0.

7.1 Algorithm:

Step 1: Create a Scanner object to take input from the user
Step 2: Display the message “Enter the number:”
Step 3: Read the integer input and store it in variable num1
Step 4: If num1 > 0, then
Step 5: Print “The value is positive” along with the number
Step 6: Else if num1 < 0, then
Step 7: Print “The value is negative” along with the number
Step 8: Else
Step 9: Print “The value is equal to 0”

7.2 Pseudocode:

```
start
create scanner object to read input
print "enter the number:"
read num1
if num1 > 0 then
      print "the value is positive " + num1
else if num1 < 0 then
      print "the value is negative " + num1
else
      print "the value is equal to 0"
end if
Stop
```

7.3 Code:

```
import java.util.Scanner;

public class program17 {
      public static void main(String[] args) {
                  Scanner sc=new Scanner(System.in);
                  System.out.println("Enter the number:");
                  int num1=sc.nextInt();

                  if(num1>0){
                        System.out.println("the value is positive "+num1);
                  }else if(num1<0){
                        System.out.println("the value is negative "+num1);
                  }else{
                        System.out.println(" the value is equal to 0");
                  }
}
}
```

7.4 Output:

Activity 8: Simple Calculator

- Get two double inputs and an operator (+, -, *, /) from the user
- Use if-else if-else to perform the operation.
- Handle division by zero using an if check.

8.1 Algorithm:

Step 1: Create a Scanner object to read input from the user
Step 2: Display the message: "Enter first number"
Step 3:Read and store the first number in num1
Step 4: Display the message: "Enter second number"
Step 5: Read and store the second number in num2
Step 6: Display the message: "Enter an operator (+, -, *, /)"
Step 7: Read and store the operator in operator
Step 8: Check the value of operator:
    If '+', compute num1 + num2 and display result
    If '-', compute num1 - num2 and display result
    If '*', compute num1 * num2 and display result
    If '/':
Step 9: If num2 is not 0, compute num1 / num2 and display result
Step 10: Else, display "Arithmetic Exception: Cannot divide by zero"
    Else, display "Error: Invalid operator"

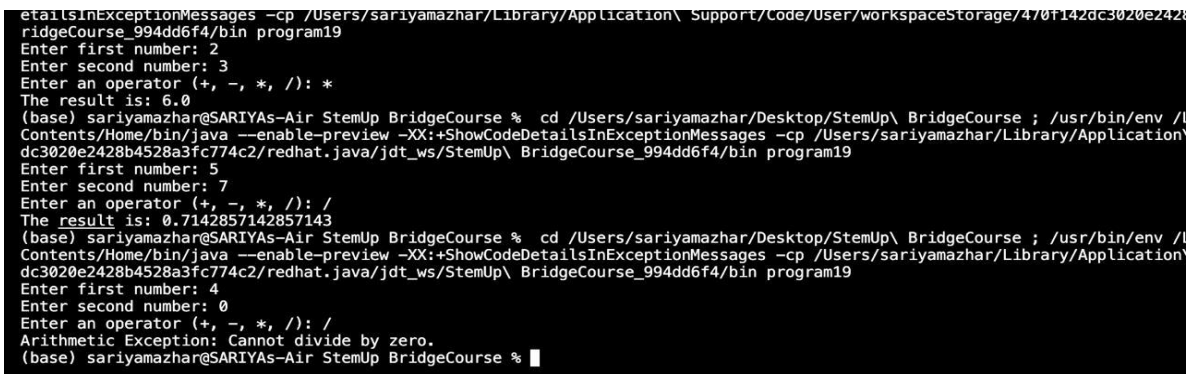
8.2 Pseudocode:

```
start
create scanner object
print "enter first number:"
read num1
print "enter second number:"
read num2
print "enter an operator (+, -, *, /):"
read operator
if operator == '+' then
    result ← num1 + num2
    print "the result is: " + result
else if operator == '-' then
    result ← num1 - num2
    print "the result is: " + result
else if operator == '*' then
    result ← num1 * num2
    print "the result is: " + result
else if operator == '/' then
    if num2 ≠ 0 then
        result ← num1 / num2
        print "the result is: " + result
    else
        print "arithmetic exception: cannot divide by zero."
    endif
else
    print "error: invalid operator."
endif
```

8.3 Code:

```
import java.util.Scanner;

public class program19 {
	public static void main(String[] args) {
		Scanner scanner = new Scanner(System.in);

		System.out.print("Enter first number: ");
		double num1 = scanner.nextDouble();

		System.out.print("Enter second number: ");
		double num2 = scanner.nextDouble();

		System.out.print("Enter an operator (+, -, *, /): ");
		char operator = scanner.next().charAt(0);

		double result;

		if (operator == '+') {
			result = num1 + num2;
			System.out.println("The result is: " + result);
		} else if (operator == '-') {
			result = num1 - num2;
			System.out.println("The result is: " + result);
		} else if (operator == '*') {
			result = num1 * num2;
			System.out.println("The result is: " + result);
		} else if (operator == '/') {
			if (num2 != 0) {
				result = num1 / num2;
				System.out.println("The result is: " + result);
			} else {
				System.out.println("Arithmetic Exception: Cannot divide by zero.");
			}
		} else {
			System.out.println("Error: Invalid operator.");
		}

	}
}
```

8.4 Output:



Activity 9:Movie Ticket Price

- Get user age (int) and student status (boolean).
- Use nested if or logical operators to determine:
- If under 5 or over 65: $5
- If 5-18 and student: $8
- Otherwise: $12
- Print the result.

9.1 Algorithm:

Step 1: Start
Step 2: Create a Scanner object to take user input
Step 3: Display the message: "Enter your age"
Step 4: Read the integer input and store it in age
Step 5: Display the message: "Are you a student? type true or false"
Step 6: Read the boolean input and store it in std
Step 7: Check if age < 5 or age > 65
    If true, print "ticket price is $5"
Step 8: Else if age > 5 and age ≤ 18 and std is true
    Print "ticket price is $8"
Step 9: Else
    Print "ticket price is $12"
Step 10: Stop

9.2 Pseudocode:

```
start
create scanner object
print "enter your age"
read age
print "are you a student? type true or false"
read std
if age < 5 or age > 65 then
    print "ticket price is $5"
else if age > 5 and age <= 18 and std == true then
    print "ticket price is $8"
else
    print "ticket price is $12"
endif
Stop
```

9.3 Code:

```
import java.util.Scanner;
public class program20 {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter your age");
        int age=sc.nextInt();
        System.out.println("Are you a student? type true or false");
        boolean std=sc.nextBoolean();

        if(age<5||age>65){
```

```
            System.out.println("ticket price is $5");
        }
        else if(age>5 && age<=18 && std){
            System.out.println("ticket price is $8");
        }
        else{
            System.out.println("ticket price is $12");
        }
    }
}
```

9.4: Output

```
dc3020e2428b4528a3fc774c2/redhat.java/jdt_ws/StemUp\ BridgeCourse_994dd6f4/bin program20
Enter your age
5
Are you a student? type true or false
true
ticket price is $12
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %  cd /Users/sariyamazhar/Desktop/StemUp\ Brid
Contents/Home/bin/java --enable-preview -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/sariyam
dc3020e2428b4528a3fc774c2/redhat.java/jdt_ws/StemUp\ BridgeCourse_994dd6f4/bin program20
Enter your age
3
Are you a student? type true or false
false
ticket price is $5
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %  cd /Users/sariyamazhar/Desktop/StemUp\ Brid
Contents/Home/bin/java --enable-preview -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/sariyam
dc3020e2428b4528a3fc774c2/redhat.java/jdt_ws/StemUp\ BridgeCourse_994dd6f4/bin program20
Enter your age
12
Are you a student? type true or false
true
ticket price is $8
```

Activity 10: Day of the Week

- Ask the user to input an integer from 1-7.
- Use a switch statement to print the corresponding day.
- Include a default case for invalid inputs.

10.1 Algorithm:

Step 1: Start
Step 2: Create a Scanner object to take user input
Step 3: Display the message: "Enter the number:"
Step 4: Read the integer input and store it in variable num1
Step 5: Use a switch statement to check the value of num1
    Case 1: Print "Sunday"
    Case 2: Print "Monday"
    Case 3: Print "Tuesday"
    Case 4: Print "Wednesday"
    Case 5: Print "Thursday"
    Case 6: Print "Friday"
    Case 7: Print "Saturday"
    Default: Print "Invalid input! Please enter a number from 1 to 7."
Step 6: Stop

10.2 Pseudocode:

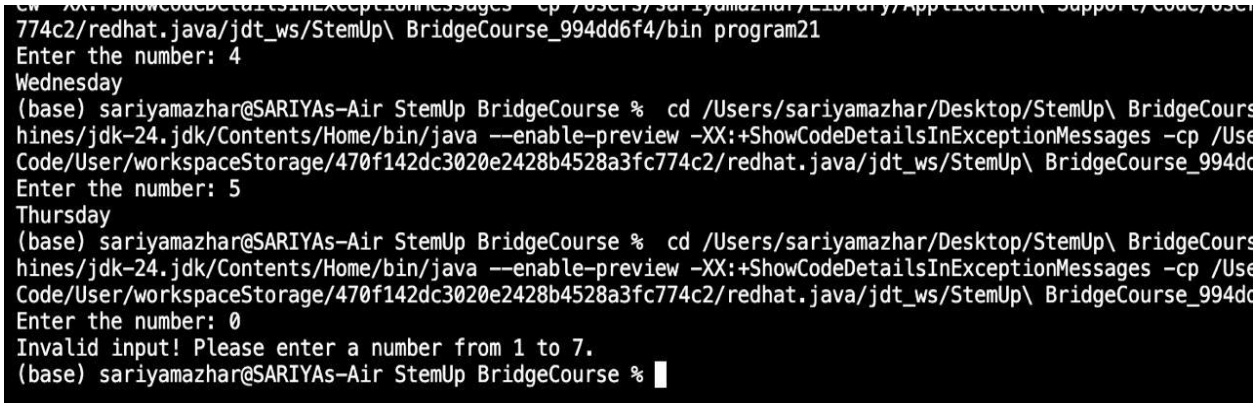
```
START
Create Scanner object
Print "Enter the number:"
Read num1
Switch(num1)
    Case 1:
        Print "Sunday"
        Break
    Case 2:
        Print "Monday"
        Break
    Case 3:
        Print "Tuesday"
        Break
    Case 4:
        Print "Wednesday"
        Break
    Case 5:
        Print "Thursday"
        Break
    Case 6:
        Print "Friday"
        Break
    Case 7:
        Print "Saturday"
        Break
    Default:
        Print "Invalid input! Please enter a number from 1 to 7."
STOP
```

10.3 Code:

```
import java.util.Scanner;
public class program21 {

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the number: ");
        int num1 = scanner.nextInt();

        switch (num1) {
            case 1:
                System.out.println("Sunday");
                break;
            case 2:
                System.out.println("Monday");
                break;
            case 3:
                System.out.println("Tuesday");
                break;
            case 4:
                System.out.println("Wednesday");
```

```
                break;
            case 5:
                System.out.println("Thursday");
                break;
            case 6:
                System.out.println("Friday");
                break;
            case 7:
                System.out.println("Saturday");
                break;
            default:
                System.out.println("Invalid input! Please enter a number from 1 to 7.");
        }

        }


    }
```

10.4 Output:



Activity 11: Driving Checker

11.1 Algorithm:

Step 1: Start
Step 2: Create a Scanner object to take input from the user
Step 3: Display the message "Enter your age:"
Step 4: Read the integer input and store it in num1
Step 5: Check if num1 is less than 0
    If true, display "age can't be negative"
Step 6: Else if num1 is greater than or equal to 18
    Display "You are eligible to drive"
Step 7: Else
    Display "You are not eligible to drive"
Step 8: Stop

11.2 Pseudocode:

```
start
create scanner object
print "enter your age:"
read num1
if num1 < 0 then
      print "age can't be negative"
else if num1 >= 18 then
      print "you are eligible to drive"
else
      print "you are not eligible to drive"
stop
```

11.3 Code:

```
import java.util.Scanner;
public class program18 {
        public static void main(String[] args) {
            Scanner sc=new Scanner(System.in);
            System.out.println("Enter your age:");
            int num1=sc.nextInt();

            if(num1<0){
                System.out.println("age can't be negative ");
            }else if(num1>=18){
                System.out.println("You are eligible to drive ");
            }else{
                System.out.println("You are not eligible to drive");
                }
}
}
```

11.4 Output:

Activity 12: Simple Menu Selection

- Simulate an ATM.
- Get user input: 1 = Check Balance, 2 = Withdraw, 3 = Deposit, 4 =Exit.
- Use switch to print the action.
- Handle invalid input with a default case.

12.1 Algorithm:

Step 1: Start
Step 2: Create a Scanner object to take user input
Step 3: Display the ATM menu options:

Check Balance,Withdraw,Deposit,Exit
Step 4: Ask the user to enter their choice (1–4)
Step 5: Read the user input and store it in choice
Step 6: Use a switch statement to handle different options:
If choice is 1, display "Checking balance..."
If choice is 2, display "Withdrawing money..."
If choice is 3, display "Depositing money..."
If choice is 4, display "Exiting... Thank you!"
If choice is not between 1 and 4, display "Invalid choice. Please select between 1 and 4."
Step 7: Stop

12.2 Pseudocode:

```
Create Scanner object
Print "ATM Menu:"
Print "1. Check Balance"
Print "2. Withdraw"
Print "3. Deposit"
Print "4. Exit"
Print "Enter your choice (1-4):"
Read choice
Switch(choice)
    Case 1:
        Print "Checking balance..."
        Break
    Case 2:
        Print "Withdrawing money..."
        Break
    Case 3:
        Print "Depositing money..."
        Break
    Case 4:
        Print "Exiting... Thank you!"
        Break
    Default:
        Print "Invalid choice. Please select between 1 and 4."
```

12.3 Code:

```
import java.util.Scanner;

public class program22 {
	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);

		System.out.println("ATM Menu:");
		System.out.println("1. Check Balance");
		System.out.println("2. Withdraw");
		System.out.println("3. Deposit");
		System.out.println("4. Exit");

		System.out.print("Enter your choice (1-4): ");
		int choice = sc.nextInt();

		switch (choice) {
			case 1:
				System.out.println("Checking balance...");
				break;
			case 2:
				System.out.println("Withdrawing money...");
				break;
			case 3:
				System.out.println("Depositing money...");
				break;
			case 4:
				System.out.println("Exiting... Thank you!");
				break;
			default:
				System.out.println("Invalid choice. Please select between 1 and 4.");
		}

	}
}
```

12.4 Output:

```
ew -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/sariyamazhar/Library/Application\
774c2/redhat.java/jdt_ws/StemUp\ BridgeCourse_994dd6f4/bin program22
ATM Menu:
1. Check Balance
2. Withdraw
3. Deposit
4. Exit
Enter your choice (1-4): 1
Checking balance...
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %  cd /Users/sariyamazhar/Desktop/St
hines/jdk-24.jdk/Contents/Home/bin/java --enable-preview -XX:+ShowCodeDetailsInException
Code/User/workspaceStorage/470f142dc3020e2428b4528a3fc774c2/redhat.java/jdt_ws/StemUp\ B
ATM Menu:
1. Check Balance
2. Withdraw
3. Deposit
4. Exit
Enter your choice (1-4): 3
Depositing money...
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %  cd /Users/sariyamazhar/Desktop/St
hines/jdk-24.jdk/Contents/Home/bin/java --enable-preview -XX:+ShowCodeDetailsInException
Code/User/workspaceStorage/470f142dc3020e2428b4528a3fc774c2/redhat.java/jdt_ws/StemUp\ B
ATM Menu:
1. Check Balance
2. Withdraw
3. Deposit
4. Exit
Enter your choice (1-4): 0
Invalid choice. Please select between 1 and 4.
```

Activity 13: Grade Remarks

- Input score (0-100).
- Use if-else if-else to print:
- 90-100: "Excellent"
- 80-89: "Very Good"
- 70-79: "Good"
- 60-69: "Pass"
- Below 60: "Fail"

13.1 Algorithm:

Step 1: Start
Step 2: Create a Scanner object to take input from the user
Step 3: Display the message: "Enter your marks:"
Step 4: Read the integer input and store it in num
Step 5: Check if num is greater than 100
    If true, print "invalid marks"
Step 6: Else if num is between 90 and 99 (inclusive), print "Excellent"
Step 7: Else if num is between 80 and 88 (inclusive), print "Very Good"
Step 8: Else if num is between 70 and 78 (inclusive), print "Good"
Step 9: Else if num is between 60 and 68 (inclusive), print "Pass"
Step 10: Else, print "Sorry! You have failed!"

13.2 Pseudocode:

```
start
create scanner object
print "enter your marks:"
read num
if num > 100 then
      print "invalid marks"
else if num >= 90 and num < 100 then
      print "excellent"
else if num >= 80 and num < 89 then
      print "very good"
else if num >= 70 and num < 79 then
      print "good"
else if num >= 60 and num < 69 then
      print "pass"
else
      print "sorry! you have failed!"
Stop
```

13.3 Code:

```
import java.util.Scanner;

public class program23 {
      public static void main(String[] args) {
                  Scanner sc=new Scanner(System.in);
                  System.out.println("Enter your marks:");
```

```
                int num=sc.nextInt();
                if(num>100){
                        System.out.println("invalid marks");
                }
                else if(num>=90 && num<100){
                        System.out.println("Excellent");

                }
                else if(num>=80 && num<89){
                        System.out.println("Very Good");
                }
                else if(num>=70 && num<79 ){
                        System.out.println("Good");
                } else if(num>=60 && num<69 ){
                        System.out.println("Pass");
                } else{
                        System.out.println("Sorry! You have failed!");
                }
}
}
```

13.4 Output:

```
BridgeCourse_994dd6f4/bin program23
Enter your marks:
87
Very Good
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %  cd /Users/sariyamazhar/Desktop/St
Contents/Home/bin/java --enable-preview -XX:+ShowCodeDetailsInExceptionMessages -cp /Use
dc3020e2428b4528a3fc774c2/redhat.java/jdt_ws/StemUp\ BridgeCourse_994dd6f4/bin program23
Enter your marks:
98
Excellent
(base) sariyamazhar@SARIYAs-Air StemUp BridgeCourse %  cd /Users/sariyamazhar/Desktop/St
Contents/Home/bin/java --enable-preview -XX:+ShowCodeDetailsInExceptionMessages -cp /Use
dc3020e2428b4528a3fc774c2/redhat.java/jdt_ws/StemUp\ BridgeCourse_994dd6f4/bin program23
Enter your marks:
7
Sorry! You have failed!
```