Solutions: if and loops

Exercise 1: Multiplication Table

```
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.println("Enter a number:");
        int number = input.nextInt();

        for (int i = 1; i <= 10; i++) {
            int result = i * number;
            System.out.println(number + " * " + i + " = " + result);
        }
    }
}
```

Exercise 2: Divisible numbers

```
import java.util.Scanner;

class Main {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.println("Enter first number:");
        int number1 = input.nextInt();
        System.out.println("Enter second number:");
        int number2 = input.nextInt();
```

```
        for (int i = number2; i <= number1; i++) {
            if(i % number2 == 0) {
                System.out.println(i + " is divisible by " + number2);
            }
        }
    }
}
```

Exercise 3: Bank Account

```
import java.util.Scanner;

class Main {
  public static void main(String[] args) {
    Scanner input = new Scanner(System.in);
    double accountBalance = 100.0;

    System.out.println("Current balance is: " + accountBalance);

    while (accountBalance > 0) {
      System.out.println("Enter 1 for withdraw or 2 for deposit");

      int operation = input.nextInt();

      if (operation == 1) {
        System.out.println("What is the amount you wish to withdraw?");

        double amount = input.nextDouble();

        accountBalance -= amount;

        System.out.println(amount + " was withdrawn successfully, current balance is " + accountBalance);

      } else if (operation == 2) {
        System.out.println("What is the amount you wish to deposit?");

        double amount = input.nextDouble();
```

```
        accountBalance += amount;

        System.out.println(amount + " was deposited successfully, current balance is " + accountBalance);
      } else {
        System.out.println("Invalid input, please try transaction again ...");
      }

    }

    System.out.println("You are now in your overdraft, program stopped!");
  }
}
```

Exercise 4: FizzBuzz

```
class FizzBuzz {
  public static void main(String[] args) {

    for (int i = 1; i<= 100; i++) {
      if (i % 3 == 0 && i % 5 == 0) {
        System.out.println("FizzBuzz");
      } else if (i % 3 == 0) { // i % 5 can only be != 0 at this point, no need to check
        System.out.println("Fizz");
      } else if (i % 5 == 0) { // i % 3 can only be != 0 at this point, no need to check
        System.out.println("Buzz");
      } else {
        System.out.println(i);
      }
    }
  }
}
```

Exercise 5: Stars

Lines and rectangles

This prints one line:

```
import java.util.Scanner;

class Line {
    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("How many stars?");
        int n = scanner.nextInt();

        for (int i = 0; i < n; i++) {
            System.out.print("* ");
        }

        System.out.println();
    }
}
```

THE VERSION THAT ASKS TWO NUMBERS AND PRINTS A RECTANGLE:

```
import java.util.Scanner;

class Rectangle {
    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.println("How many columns?");
        int columns = scanner.nextInt();
        System.out.println("How many rows?");
        int rows = scanner.nextInt();

        for (int r = 1; r <= rows; r++) {
            for (int c = 1; c <= columns; c++) {
                System.out.print("* ");
```

```
            }
            System.out.println();
        }
    }
}
```

Triangle

STRAIGHT TRIANGLE:

```
import java.util.Scanner;

class Triangle {
    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.println("How many rows?");
        int rows = scanner.nextInt();

        for (int r = 0; r < rows; r++) {
            for (int c = 0; c <= r; c++) {
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}
```

INVERTED TRIANGLE:

```
import java.util.Scanner;

class InvertedTriangle {
  public static void main(String[] args) {

    Scanner scanner = new Scanner(System.in);
```

```
    System.out.println("How many rows?");
    int rows = scanner.nextInt();

    for (int r = 0; r<rows; r++) {
      for (int c = 0; c<(rows - r); c++) {
        System.out.print("* ");
      }
      System.out.println();
    }
  }
}
```

Border

```
import java.util.Scanner;

class Border {
    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.println("How many columns?");
        int columns = scanner.nextInt();
        System.out.println("How many rows?");
        int rows = scanner.nextInt();

        for (int r = 1; r <= rows; r++) {
            for (int c = 1; c <= columns; c++) {
                if (r == 1 || c == 1 || r == rows || c == columns) {
                    System.out.print("* ");
                }
                else {
                    System.out.print("  ");
                }
            }
            System.out.println();
        }
```

```
    }
}
```

Made with ❤ by teachers at ReDI School.