Assignment 2

**Question 1**

1. a/b <= c; a/b would give an int result, as it is an int division, then the RHS comparison would check the int type against the double type, and the overall type is just a Boolean false or true due to the comparison operator <=
2. 2 \* a + c > 12f; the LHS would evaluate to be a double value, the RHS is a float, and the overall result would be a Boolean false or true due to the comparison operator >
3. 7.8 < (a\*b) || c != a; would give a Boolean false or true due to the operators: <, ||, !=
4. 2\*a>4&&2.0<a||c>a; would give a Boolean false or true due to the operators: >, &&, <, ||, >

**Question 2**

Boolean w = b < a; Boolean, so it’s a true/false value; RHS is b < a which evaluates to be 5 < 12? Yes; therefore, Boolean value is true.

Boolean x = b < a || a / c == 2; Boolean, so it’s a true/false value, RHS has two distinct pieces, b < a followed by a / c == 2; with an and/or operator; b < a is evaluated to be 5 < 12, and as it evaluates to be true, the program skips over the second piece of code a/c==2, and the assigned value is true.

Boolean y = b < a && a / c == 2; Boolean, so it’s a true/false value; once again, there are two distinct pieces to the RHS; b < a evaluates to be 5 < 12, which is a yes, but as there is an and operator this time, both statements must evaluate to be true, so this time it moves on to the second segment, which evaluates to be 12 / 0 == 2; as 12 is of the int type, it cannot be divided by zero, and so this crashes the program.

**Question 3**

The problem with this piece of code is that the very first case that the program tests is score >= 60.0, which means that it will immediately assign a grade of “D”, and skip over the rest of the code, or, the only alternative is if the score was lower than a 60, then it would be assigned an “F”.

**Question 4**

Code:

package project;

import java.util.Scanner;

public class secondTest {

public static void main(String[] args) {

Scanner enter = new Scanner(System.in);

System.out.print("Enter an Integer: ");

int x = enter.nextInt();

enter.close();

if (x%5 == 0) {

System.out.println("Is Divisible by 5");

}

else {

System.out.println("Isn't Divisble by 5");

}

}

}

Output examples (19, 15, 4, 1):

Enter an Integer: 19

Isn't Divisble by 5

Enter an Integer: 15

Is Divisible by 5

Enter an Integer: 4

Isn't Divisble by 5

Enter an Integer: 1

Isn't Divisble by 5

**Question 5**

Code:

package project;

import java.util.Scanner;

public class secondTest {

public static void main(String[] args) {

Scanner enter = new Scanner(System.in);

System.out.print("Enter an Integer: ");

int x = enter.nextInt();

enter.close();

int result = x%5;

switch(result) {

case 0:

System.out.println("Is Divisible by 5");

break;

default:

System.out.println("Isn't Divisble by 5");

}

}

}

Output Examples (20, 49, 3, 115):

Enter an Integer: 20

Is Divisible by 5

Enter an Integer: 49

Isn't Divisble by 5

Enter an Integer: 3

Isn't Divisble by 5

Enter an Integer: 115

Is Divisible by 5

**Question 6**

Code:

package project;

import java.util.Scanner;

public class secondTest {

public static void main(String[] args) {

Scanner enter = new Scanner(System.in);

System.out.print("Enter an Integer Between 1 & 7: ");

int x = enter.nextInt();

enter.close();

switch(x) {

case 1:

System.out.println("Monday");

break;

case 2:

System.out.println("Tuesday");

break;

case 3:

System.out.println("Wednesday");

break;

case 4:

System.out.println("Thursday");

break;

case 5:

System.out.println("Friday");

break;

case 6:

System.out.println("Saturday");

break;

case 7:

System.out.println("Sunday");

break;

default:

System.out.println("Didn't give a proper input");

}

}

}

Output Examples (1, 5, 0, 8):

Enter an Integer Between 1 & 7: 1

Monday

Enter an Integer Between 1 & 7: 5

Friday

Enter an Integer Between 1 & 7: 0

Didn't give a proper input

Enter an Integer Between 1 & 7: 8

Didn't give a proper input