Laboration 1

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Uppgift 1

Koden:

```
//Author: Edvin Wahlberg 910721
// Labb 1 Uppgfit 1
public class labb1_1
{
//fun main
//prints out different types of data
        public static void main(String[] args)
        {
        boolean data1 = true;
        float data2 = 45.8F;
        int data3 = 29;
        boolean data4 = data3 < 10;
        float data5 = 12 / 5;
        float data6 = data3 * data5;
        int data7 = 10 % 3;
        String data8 = "Java programmering";
        char data9 = 'b';
        float data10 = (float)data5 / 4;
        System.out.println ("Variabeln data1: " + data1);
        System.out.println ("Variabeln data2: " + data2);
        System.out.println ("Variabeln data3: " + data3);
        System.out.println ("Variabeln data4: " + data4);
        System.out.println ("Variabeln data5: " + data5);
        System.out.println ("Variabeln data6: " + data6);
        System.out.println ("Variabeln data7: " + data7);
        System.out.println ("Variabeln data8: " + data8);
        System.out.println ("Variabeln data9: " + data9);
        System.out.println ("Variabeln data10: " + data10);
        }

}
```

Körningen:

```
edvins-MacBook-Pro:sommarjava kirk$ java labb1_1
Variabeln data1: true
Variabeln data2: 45.8
Variabeln data3: 29
Variabeln data4: false
Variabeln data5: 2.0
Variabeln data6: 58.0
Variabeln data7: 1
Variabeln data8: Java programmering
Variabeln data9: b
Variabeln data10: 0.5
```

Uppgift 2

Koden:

```
//Author: Edvin Wahlberg 910721
//Labb 1 Uppgfit 2

import java.util.Scanner;

public class labb1_2
{
        //Fun main
        // Prints out the sum, product and mean of input integers a, b and c
        public static void main(String[] args)
        {
        int a;
        int b;
        int c;

        @SuppressWarnings("resource")
        Scanner in = new Scanner(System.in);
        System.out.println("Enter the value of integer A");
        a = in.nextInt();
        System.out.println("Enter the value of integer B");
        b = in.nextInt();
        System.out.println("Enter the value of integer C");
        c = in.nextInt();

        System.out.println("The sum of A, B and C is: " + (a + b + c));

        System.out.println("The product of A, B and C is: " + (a * b * c));

        System.out.println("The mean of A, B and C is : " + ((a + b +c)/3));

        }
}
```

Körningen:

```
edvins-MacBook-Pro:sommarjava kirk$ java labb1_2
Enter the value of integer A
10
Enter the value of integer B
15
Enter the value of integer C
20
The sum of A, B and C is: 45
The product of A, B and C is: 3000
The mean of A, B and C is : 15
edvins-MacBook-Pro:sommarjava kirk$
```

Uppgift 3

Koden:

```
//Edvin Wahlberg 910721
//Labb 1 Uppgift 3
import java.util.Scanner;

public class labb1_3 {

//fun main
//converts input float in mil to kilometers
        public static void main(String[] args){
                float inputMil;
                @SuppressWarnings("resource")
                Scanner in = new Scanner(System.in);
                System.out.println("Skriv in antal mil:");
                inputMil = in.nextFloat();
                System.out.println("Det motsvarar " + (inputMil * 10) + " km");
        }
}
```

Körningen:

```
edvins-MacBook-Pro:sommarjava kirk$ java labb1_3
Skriv in antal mil:
10.3
Det motsvarar 103.0 km
edvins-MacBook-Pro:sommarjava kirk$
```

Uppgift 4

Koden:

```
//Author: Edvin Wahlberg 910721
// Labb 1 Uppgift 4
import java.util.Scanner;

public class labb1_4
{
// fun main
// prints out input integer if it's greater or equal to 0
        public static void main(String[] args)
        {
                int age;
                Scanner in = new Scanner(System.in);
                System.out.println("What's your age, friend?");
                age = in.nextInt();
                if(age < 0)
                        {
                        System.out.println("Invalid age, age must be greater or equal to 0");
                        }
                else
                        {
                System.out.println("Your age is " + age + " that's really great for you!");
                        }
        }
}
```

Körningen:

```
edvins-MacBook-Pro:sommarjava kirk$ java labb1_4
What's your age, friend?
12
Your age is 12 that's really great for you!
edvins-MacBook-Pro:sommarjava kirk$
```

Uppgift 5

Koden:

```
//Author: Edvin Wahlberg 910721
//Labb 1 Uppgift 5
import java.util.Scanner;

public class labb1_5
{
//fun main
//prints out all integers up to input integer. Input integer has to be greater than 0.
        public static void main(String[] args)
        {
                int countdown_int;
                Scanner in = new Scanner(System.in);
                System.out.println("What integer would you like to count down from?");
                countdown_int = in.nextInt();
                if(countdown_int > 0)
                {
                while(countdown_int > 0)
                        {
                        System.out.println(countdown_int);
                        countdown_int = countdown_int - 1;
                        }
                }
                else
                {
                        System.out.println("Input integer must be greater than 0");
                }
        }
}
```

Körningen:

```
edvins-MacBook-Pro:sommarjava kirk$ java labb1_5
What integer would you like to count down from?
3
3
2
1
edvins-MacBook-Pro:sommarjava kirk$
```

Uppgift 6

Koden_6A:

```
//Author: Edvin Wahlberg 910721
// Labb 1 Uppgift 6a(for-loop)

import java.util.Scanner;

public class labb1_6a
{
//fun main
//prints out all integers up to the input integer, input must be greater than 0.
        public static void main(String[] args)
        {
                int countdown_int;
                Scanner in = new Scanner(System.in);
                System.out.println("What integer would you like to count down from?");
                countdown_int = in.nextInt();
                if(countdown_int <= 0)
                {
                        System.out.println("Input integer must be greater than 0");
                }
                else
                {
                        for(int i = countdown_int; i > 0; i--)
                                {
                        System.out.println(countdown_int);
                        countdown_int = countdown_int - 1;
                                }
                }
        }
}
```

Koden_6B:

```
//Author: Edvin Wahlberg
//Labb 1 Uppgift 6B(Do-while loop)
import java.util.Scanner;

public class labb1_6b
{
//fun main
//prints out all integers leading up to the input integer. Integer must be greater than 0.
        public static void main(String[] args)
        {
                int countdown_int;
                Scanner in = new Scanner(System.in);
                System.out.println("What integer would you like to count down from?");
                countdown_int = in.nextInt();
                if(countdown_int > 0)
                {
                        do
                        {
                        System.out.println(countdown_int);
                        countdown_int = countdown_int - 1;
                        }
                        while(countdown_int > 0);
                }
                else
                {
                System.out.println("Input integer must be greater than 0");
                }
        }
}
```

Körningen:

```
What integer would you like to count down from?
3
3
2
1
edvins-MacBook-Pro:sommarjava kirk$
```

Uppgift 7

Koden:

```
//Author: Edvin Wahlberg 910721
//Labb 1 Uppgift 7
import java.util.Scanner;

public class labb1_7 {
//fun main
//Uses input integers a, b and c in 5 different boolean cases.
        public static void main(String[] args)
        {
                int a;
                int b;
                int c;
                @SuppressWarnings("resource")
                Scanner in = new Scanner(System.in);
                System.out.println("Enter the value of integer A");
                a = in.nextInt();
                System.out.println("Enter the value of integer B");
                b = in.nextInt();
                System.out.println("Enter the value of integer C");
                c = in.nextInt();
                boolean answer_a = (a % 7 == 0);
                boolean answer_b = (c % b != 0);
                boolean answer_c = (a > b || a > c);
                boolean answer_d = (a > b && b > c);
                boolean answer_e = !(a > b && a > c) && (a > b || a > c);

                System.out.println("Talet A = " + a + " är jämnt delbart med 7: " + answer_a);
                System.out.println("Talet C = " + c + " är inte jämnt delbart med talet B = " + b + ": " + answer_b);
                System.out.println("Talet A = " + a + " är större än minst något av talen B och C: " + answer_c);
                System.out.println("Talet A = " + a +" är större än talet B = " + b + ", som i sin tur är större än talet C = " + c + ": " + answer_d);
                System.out.println("Talet A = "+ a + " är större än ett av talen B = " + b + " och C = " + c + " , men inte större än båda: " + answer_e);
        }
}
```

Körningen:

```
edvins-MacBook-Pro:sommarjava kirk$ java labb1_7
Enter the value of integer A
2
Enter the value of integer B
1
Enter the value of integer C
3
Talet A = 2 är jämnt delbart med 7: false
Talet C = 3 är inte jämnt delbart med talet B = 1: false
Talet A = 2 är större än minst något av talen B och C: true
Talet A = 2 är större än talet B = 1, som i sin tur är större än talet C = 3: false
Talet A = 2 är större än ett av talen B = 1 och C = 3 , men inte större än båda: true
edvins-MacBook-Pro:sommarjava kirk$
```

Uppgift 8

Koden:

```
//Author: Edvin Wahlberg 910721
// Labb 1 Uppgift 8

import java.util.Scanner;

public class labb1_8
{
//fun main
//prints out the multiplication table of user's input integer. The amount of cases from the table is determined by the user
        public static void main(String[] args)
        {
                int multiple;
                int multiplier;

                @SuppressWarnings("resource")
                Scanner in = new Scanner(System.in);
                System.out.println("Enter the multiplication table you want");
                multiple = in.nextInt();
                System.out.println("Enter the multiplier you want to count up to");
                multiplier = in.nextInt();

                if(multiple < 1 || multiplier < 1)
                {
                        System.out.println("Invalid table or multiplier both must be greater than 1");
                }

                else
                {
                        while(multiplier > 0)
                        {
                        System.out.println(multiple + " * " + multiplier + " = " + multiple * multiplier);
                        multiplier = multiplier -1;
                        }
                }
        }

}
```

Körningen:

```
Enter the multiplication table you want
7
Enter the multiplier you want to count up to
4
7 * 4 = 28
7 * 3 = 21
7 * 2 = 14
7 * 1 = 7
edvins-MacBook-Pro:sommarjava kirk$
```

Uppgift 9

Koden_9a:

```
//Author: Edvin Wahlberg 910721
//Lab 1 Uppgift 9a

public class labb1_9a
{
//fun main
//Prints out the sum of all even numbers between 0-200
        public static void main(String[] args)
        {
                int integer = 200;
                int acc = 0;
                while(integer > 0)
                {
                        acc = acc + integer;
                        integer = integer - 2;
                }
                System.out.println(acc);
        }

}
```

Koden_9b:

```
//Author: Edvin Wahlberg
//Labb 1 Uppgift 9b

public class labb1_9b
{
//fun main
//returns the sum of all even numbers between 0-200. Using a for-loop.
        public static void main(String[] args)
        {
                int i;
                int acc = 0;
                for(i = 100; i > 0; i--)
                {
                 acc = i * 2 + acc;
                }
                System.out.println(acc);
        }
}
```

Koden_9c:

```
//Author: Edvin  Wahlberg
//Labb 1 Uppgift 9c

public class labb1_9c
{
//Prints out the sum of all even numbers between 0-200. Using a do-while-loop.
        public static void main(String[] args)
        {
                int acc = 0;
                int start_int = 200;
                do
                {
                acc = acc + start_int;
                start_int = start_int - 2;
                }
                while(start_int > 0);
                System.out.println(acc);
        }

}
```

Körningen:

```
edvins-MacBook-Pro:sommarjava kirk$ javac labb1_9
labb1_9a.java  labb1_9b.java  labb1_9c.java
edvins-MacBook-Pro:sommarjava kirk$ javac labb1_9a.java
edvins-MacBook-Pro:sommarjava kirk$ java labb1_9a
10100
edvins-MacBook-Pro:sommarjava kirk$ javac labb1_9b.java
edvins-MacBook-Pro:sommarjava kirk$ java labb1_9b
10100
edvins-MacBook-Pro:sommarjava kirk$ javac labb1_9c.java
edvins-MacBook-Pro:sommarjava kirk$ java labb1_9c
10100
edvins-MacBook-Pro:sommarjava kirk$
```

Uppgift 10

Koden:

```
//Author: Edvin Wahlberg 910721
//Labb 1 Uppgift 10
import java.util.Scanner;

public class labb1_10 {
//fun Prints out the number of days that are in the users input month. 1
being January and so forth.
//Input 0 terminates the program.
      public static void main(String[] args)
      {
            int input_month;
            @SuppressWarnings("resource")
```

```
            Scanner in = new Scanner(System.in);
            int quit_int = 1;
            while(quit_int != 0)
            {
                  System.out.println("\nEnter the number of the month you
wish to learn more about: 1-12\n\n Or input 0 to quit");
                  input_month = in.nextInt();
                  switch(input_month)
                  {
            case 1:
                  System.out.println("\n***Det är 31 dagar i Januari ***");
                  break;
            case 2:
                  System.out.println("\n***Det är 28 dagar i Februari ***");
                  break;
            case 3:
                  System.out.println("\n***Det är 31 dagar i Mars ***");
                  break;
            case 4:
                  System.out.println("\n*** Det är 30 dagar i April ***");
                  break;
            case 5:
                  System.out.println("\n*** Det är 31 dagar i Maj ***");
                  break;
            case 6:
                  System.out.println("\n*** Det är 30 dagar i Juni ***");
                  break;
            case 7:
                  System.out.println("\n*** Det är 31 dagar i Juli ***");
                  break;
            case 8:
                  System.out.println("\n*** Det är 31 dagar i Augusti ***");
                  break;
            case 9:
                  System.out.println("\n*** Det är 30 dagar i September
***");
                  break;
            case 10:
                  System.out.println("\n*** Det är 31 dagar i Oktober ***");
                  break;
            case 11:
                  System.out.println("\n*** Det är 30 dagar i November
***");
                  break;
            case 12:
                  System.out.println("\n*** Det är 31 dagar i December
***");
                  break;
            case 0:
                  System.out.println("\nShutting down:'(");
                  quit_int = 0;
```

```
                  break;
            default:
                  System.out.println("Invalid month, there are only 12
months! 1-12 are all valid inputs\nInput any integer to continue: ");
                  input_month = in.nextInt();
                  break;
                  }
            }
      }
}
```

Körningen: