

## CSCI 1100 – September 2015

### Laboratory Report 6

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**Please mark your lab**

**T 5:30 L143**

1	This document is entirely my own work.	Yes
2	I obtained some help to complete this document.	no.
3	This document contains some material copied or cut and pasted from the internet or another document or file or program.	no.

## Exercise 1.

```
/*This program will print the city name*/
import java.util.Scanner;
public class Q1{
    public static void main(String[]args){
        Scanner keyboard = new Scanner(System.in);
        System.out.println("Please type a city name:");
        String name = keyboard.nextLine();
        System.out.println("Please type a number between 1 and 20: ");
        int n = keyboard.nextInt();
        int i = 0;
        while (i<n){
            System.out.println(name);
            i++;
        }
    }
}
```

----jGRASP exec: java Q1

Please type a city name:

halifax

Please type a number between 1 and 20:

5

halifax

halifax

halifax

halifax

halifax

----jGRASP: operation complete.

----jGRASP exec: java Q1

Please type a city name:

xingtai

Please type a number between 1 and 20:

3

xingtai

xingtai

xingtai

----jGRASP: operation complete.

## Exercise 2.

```
/*This program will let user print number between 1 and 10 */
import java.util.Scanner;
public class E2{
    public static void main(String[]args){
        Scanner kb = new Scanner(System.in);
        System.out.println("Enter a number between 1 and 10: ");
        int n = kb.nextInt();
        while (n>=10||n<=1){
            System.out.print("That is not correct. Try Again - ");
            System.out.print("Enter a number between 1 and 10: ");
            n = kb.nextInt();
        }
        System.out.print("Correct!");
    }
}
```

----jGRASP exec: java E2

Enter a number between 1 and 10:

-11

That is not correct. Try Again - Enter a number between 1 and 10: 21

That is not correct. Try Again - Enter a number between 1 and 10: 31

That is not correct. Try Again - Enter a number between 1 and 10: 55

That is not correct. Try Again - Enter a number between 1 and 10: 99

That is not correct. Try Again - Enter a number between 1 and 10: 5

Correct!

----jGRASP: operation complete.

### Exercise 3.

/\*This program will prints the sequence of multiples of N up to exactly N x N. \*/

```
import java.util.Scanner;
public class E3{
    public static void main(String[]args){
        Scanner kb = new Scanner(System.in);
        System.out.println("Please type a number: ");
        int N = kb.nextInt();
        int i = 0;
        int S = N*N;
        int A = N;
        while (A<S){
            A=N+N*i;
            i++;
            System.out.print(A+" ");
        }
    }
}
```

```
----jGRASP exec: java E3
Please type a number:
5
5 10 15 20 25
----jGRASP: operation complete.
```

```
----jGRASP exec: java E3
Please type a number:
16
16 32 48 64 80 96 112 128 144 160 176 192 208 224 240 256
----jGRASP: operation complete.
```

#### Exercise 4.

```
/*This program will prints the sequence of multiples of N up to exactly N x N. */
import java.util.Scanner;
public class E4{
    public static void main(String[]args){
        Scanner kb = new Scanner(System.in);
        System.out.println("Please type a number: ");
        int N = kb.nextInt();
        int i = 0;
        int S = N*N;
        int A = N;
        while (A<S){
            A=N+N*i;
            i++;
            System.out.println(i+"x"+N+"="+A);
        }
    }
}
```

----jGRASP exec: java E3

Please type a number:

9

1x9=9  
2x9=18  
3x9=27  
4x9=36  
5x9=45  
6x9=54  
7x9=63  
8x9=72  
9x9=81

----jGRASP: operation complete.

----jGRASP exec: java E3

Please type a number:

7

1x7=7  
2x7=14  
3x7=21  
4x7=28  
5x7=35  
6x7=42  
7x7=49

----jGRASP: operation complete.

## Exercise 5.

```
/*This program will prints the price of hamburger */
import java.util.Scanner;
public class E5{
    public static void main(String[]args){
        Scanner kb = new Scanner(System.in);
        System.out.println("Please type a number of years: ");
        int N = kb.nextInt();
        int i = 0;
        double A = 5;
        double r = 0.15;
        while (i<N){
            A=A+A*r;
            System.out.println("Year: "+(2015+i)+" - Cost $" +A);
            i++;
        }
    }
}
```

----jGRASP exec: java E5

Please type a number of years:

5

Year: 2015 - Cost \$5.75  
Year: 2016 - Cost \$6.6125  
Year: 2017 - Cost \$7.604375  
Year: 2018 - Cost \$8.74503125  
Year: 2019 - Cost \$10.0567859375

----jGRASP: operation complete.

----jGRASP exec: java E5

Please type a number of years:

10

Year: 2015 - Cost \$5.75  
Year: 2016 - Cost \$6.6125  
Year: 2017 - Cost \$7.604375  
Year: 2018 - Cost \$8.74503125  
Year: 2019 - Cost \$10.0567859375  
Year: 2020 - Cost \$11.565303828125002  
Year: 2021 - Cost \$13.300099402343752  
Year: 2022 - Cost \$15.295114312695315  
Year: 2023 - Cost \$17.58938145959961  
Year: 2024 - Cost \$20.227788678539554

----jGRASP: operation complete.



## Exercise 6.

```
/*The program will write all numbers between the two numbers,
or an error message if the first number is greater or equal to the second number. */
import java.util.Scanner;
public class E6{
    public static void main(String[]args){
        Scanner kb = new Scanner(System.in);
        System.out.println("Please type two numbers: ");
        int a = kb.nextInt();
        int b = kb.nextInt();
        int i = 0;
        int c = a;
        while (a>=b){
            System.out.println("Error: the first number must be smaller than the second.");
            System.out.println("Please type two numbers: ");
            a = kb.nextInt();
            b = kb.nextInt();
        }
        if (a<b){
            while (c<b){
                c=a+i;
                System.out.print(c+" ");
                i++;
            }
        }
    }
}
```

```
----jGRASP exec: java E6

Please type two numbers:
4 22
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
----jGRASP: operation complete.

----jGRASP exec: java E6

Please type two numbers:
9 4
Error: the first number must be smaller than the second.
Please type two numbers:
8 5
Error: the first number must be smaller than the second.
Please type two numbers:
4 3
Error: the first number must be smaller than the second.
Please type two numbers:
12 1
Error: the first number must be smaller than the second.
Please type two numbers:
1 23
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
----jGRASP: operation complete.
```