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COSC 211 : Object Oriented Programming I - LAB03**Objectives:**

To gain experience with:

- Reading input (characters, strings and numbers) from the keyboard

1. Reading Input

There are various ways to read input from the keyboard, the *java.util.Scanner* class is one of them.

The **Java Scanner** class breaks the input into tokens using a delimiter that is whitespace by default. It provides many methods to read and parse various primitive values.

Java Scanner class is widely used to parse text for string and primitive types using regular expression.

There is a list of commonly used Scanner class methods:

Method	Description
public String next()	it returns the next token from the scanner.
public String nextLine()	it moves the scanner position to the next line and returns the value as a string.
public byte nextByte()	it scans the next token as a byte.
public short nextShort()	it scans the next token as a short value.
public int nextInt()	it scans the next token as an int value.
public long nextLong()	it scans the next token as a long value.
public float nextFloat()	it scans the next token as a float value.
public double nextDouble()	it scans the next token as a double value.

Example 1: Study, compile, run and observe the output of the following program

```
//ReadingInput.java
import java.util.Scanner;
import java.io.IOException;

public class ReadingInput {
    public static void main(String[] args) throws IOException {
        Scanner input = new Scanner(System.in);

        System.out.print("Please enter your name: ");
        String name = input.nextLine();

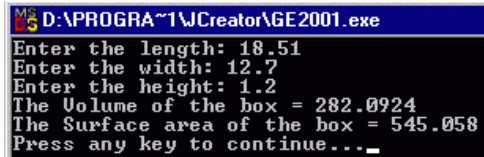
        System.out.print("Now enter your age: ");
        int age = input.nextInt();

        System.out.print("Enter amount to donate: ");
        double amount = input.nextDouble();

        System.out.printf("Mr. %s after one year you will be %d years\n", name, (age+1));
        System.out.printf("This is the amount you donated $%,.2f", amount);
    }
}
```

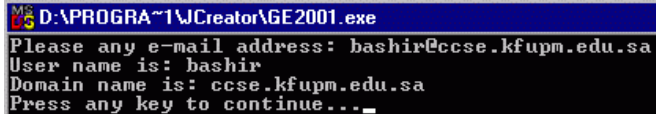
3. Assignments

1. Write a Java program that prompts for and reads the length, width, and height (in centimeters) of a closed box. The program should then compute and display
 - (a) the volume of the box.
 - (b) the surface area of the box.



```
D:\PROGRAMS\1\Creator\GE2001.exe
Enter the length: 18.51
Enter the width: 12.7
Enter the height: 1.2
The Volume of the box = 282.0924
The Surface area of the box = 545.058
Press any key to continue..._
```

2. Write a program that prompts for and read e-mail address a user. The program then prints the user name and the domain name on different lines.(Hint: use indexOf() and substring() method)



```
D:\PROGRAMS\1\Creator\GE2001.exe
Please any e-mail address: bashir@ccse.kfupm.edu.sa
User name is: bashir
Domain name is: ccse.kfupm.edu.sa
Press any key to continue..._
```

2.

Write a program that prompts user to read the sides and compute the area, perimeter, longest, and smallest side of triangle. Compute and display the remainder when the longest side is divided by the smallest side. Print and format the output as

The perimeter of triangle is 11.00
The area of triangle with sides a=6, b=7, and c=9 is 25.69unit square
The longest side is 9
The smallest side is 6
The remainder is 3