**Week 4 lab class**

**Demonstration of variables types**

**Exercise 1:**

* open a project named **BoxProject and** create a package named **week4.exercises**
* create a class named **Test** with **main method**
* create a class named **Box** without main method
* inside **Box** class declare three **instance** variables named **length**; **width**; **height**. the type of the variables should be **double**
* inside Box class declare **three methods** to set values of length, width and height. each method has a local variable type double as **parameter** (setter)
* inside **Box** class declare three methods to get values of length, width and height. each method should **return** double length, width and height respectively.
* **Print** Length, width and height in the **Test** class
* output should be as follows:

**Length is: 5.5**

**Width is: 2.5**

**Height is: 2.0**

**Exercise 2:**

declare a **class** variable named **pricePerUnit** and assign it **5.0**.

write a method to named **getPricePerBox()** calculate the price of the box. inside this method declare a **local** variable called **price**, the price will be the multiplication of **pricePerUnit** with the sum of length, width and height.

hints: **price** = **pricePerUnit \* (length +width+height);**

**//totalPrice = totalPrice + price;**

and lastly return **price**

print the price of box in the main method inside **Test** class.

**Output should be as follows**

Length is: 2.0

Width is: 2.0

Height is: 2.0

Price of this box is: 30.0

**Scanner Demonstration**

**exercise 3:**

create a class named **ScannerDemonstration**

write a void method named readInteger(). Take two integer inputs from user. First calculate the sum of two then product of two. Finally, print the sum and product of both obtained results. call readInteger() to main method inside Week4Main class and get the following output.

Enter num 1:3

Enter num 2:4

Sum : 7

Product : 12

**Exercise 4**

write a void method named describeYourSelf (). take input of name, field of interests, age, height and show the output as follows. call describeYourSelf () to main method inside Test class and get the following output.

Enter name: sddfsd

Enter Filed of interest: travelling

Enter your age: 21

Enter height: 5.7

Hey, my name is sddfsd I am 21 years of old. I am 5.7 feet long. My field of interest are travelling.

**String Demonstration**

**Exercise 5**

create a class named **StringDemo. inside** StringDemo create a void method named stringDemoMethod. inside stringDemoMethod declare two variables s1 and s2

s1 = "Hello";

String s2 = " hello ";

Find the following output:

character at index 0 is :H

code point of index 4 is :111

Unicode of before 4 is :108

Result of two string comparision :40

Result of two string comparision ignoring case :72

value of s2 before trim : hello

value of s2 after trim :hello

upper case value of s1 :HELLO

index of e in s1 :1

length of s1 :5

s1 equals to s2 :false

**Static Block Demonstration**

**Exercise 6**

* Take the first example from “How static block works” section given in the lecture notes. Write the program in your computer and try to execute it.
* Now remove this “**System.out.println(Test.i);”** line and then monitor the output.
* Later, create an empty main method in the same Test class. Execute it and compare the

results with the previous question.

**Exercise 7:**

**public static double totalPrice =** 0.0;

declare a **class** variable named **totalPrice**; variable will be **public**. initial value 0.0

edit **getPriceofBox()** method to calculate total price that will be the price of all boxes. Every time a new box is created and price calculated the **totalPrice** variable will be updated.

hints : **totalPrice = totalPrice + price;**

print total prince in the method.

**Output should be as follows**

Length is: 2.0

Width is: 2.0

Height is: 2.0

Height is: 2.0

Price of box is: 30.0

Total price : 30.0

Length is: 3.0

Width is: 3.0

Height is: 3.0

Price of box is: 45.0

Total price: 75.0

**Exercise 8**

create a class named **ScannerDemonstration**   
write a void method named readDouble(). take two double input for length and breadth of a rectangle and print area type casted to int. Hints\* area = length \* breadth