

Faculty of Computing

Year 1 Semester 1 (2024)

IT1120 – Introduction to Programming

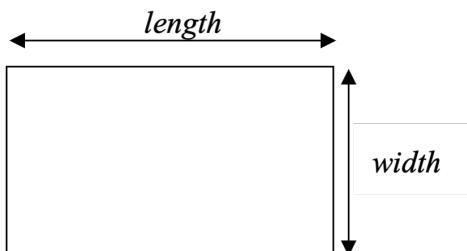
Lab Sheet 02

Question 1 (Tutorial 1 – Q3)

The perimeter of a rectangular fence is known (assume it is 100). If the width of the fence is $\frac{3}{4}$ the size of the length of the fence.

Write a Java program to determine the width and length of the fence.

*Hint: Perimeter of a Rectangle = $2 * (length + width)$



Save the file inside ‘Lab 2’ folder as: **ITxxxxxxxxxLab2Q1.java**

Replace ‘ITxx xxx xxx’ of the filename, with your own Student ID.

Expected Output:

```
Microsoft Windows [Version 10.0.19045.4598]
(c) Microsoft Corporation. All rights reserved.

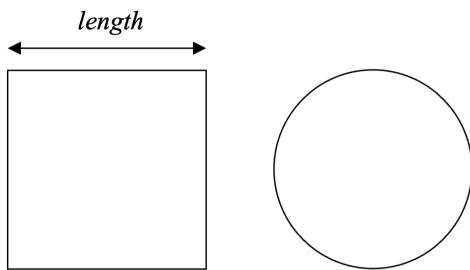
C:\Users\vidan\Desktop\Lab 2>javac ITxxxxxxxxxLab2Q1.java

C:\Users\vidan\Desktop\Lab 2>java ITxxxxxxxxxLab2Q1
Length of the fence: 28.571428571428573
Width of the fence: 21.42857142857143
```

Question 2 (Tutorial 1 – Q4)

A rope is used to create a square fence. The length of a side of the square is known (assume it is 10). Later this same rope is used to create a circular fence.

A rope is used to create a square fence. The length of a side of the square is known. Later this same rope is used to create a circular fence.



*Hint: Perimeter of a Square = $4 * \text{length}$

Circumference of Circle = $2 * \text{PI} * \text{Radius}$

$\text{PI} = 22/7 = 3.14$

Save the file inside ‘Lab 2’ folder as: **ITxxxxxxxxxLab2Q2.java**

Replace ‘ITxx xxx xxx’ of the filename, with your own Student ID.

Expected Output:

```
Microsoft Windows [Version 10.0.19045.4598]
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C:\Users\vidan\Desktop\Lab 2>javac ITxxxxxxxxxLab2Q2.java

C:\Users\vidan\Desktop\Lab 2>java ITxxxxxxxxxLab2Q2
Radius of the circular fence: 6.369426751592356
```

Question 3

Write a Java program that calculates the length of the hypotenuse of a right triangle when two other sides are known (assume Side A = 3 and Side B = 4).

*Hint: Hypotenuse = square root ($SideA^2 + SideB^2$)

Save the file inside ‘**Lab 2**’ folder as: **ITxxxxxxxxxLab2Q3.java**

Replace ‘ITxx xxx xxx’ of the filename, with your own Student ID.

Expected Output:

```
Microsoft Windows [Version 10.0.19045.4598]
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C:\Users\vidan\Desktop\Lab 2>javac ITxxxxxxxxxLab2Q3.java

C:\Users\vidan\Desktop\Lab 2>java ITxxxxxxxxxLab2Q3
Length of the hypotenuse: 5.0
```