



# Luxor University
# Faculty of computers and information

## Programming Fundamentals

Lab Sheet #3

**Objectives:**

- Learn how to think on paper before coding.
- Learn how to construct your program step by step in detail (Algorithm).
- Learn how to present your program algorithm in an efficient and organized way.
- Understand the difference between sequential execution and transfer of controls.
- Learn how to solve problems using (conditions).

**Problems:**

- Welcome for you with Conditions
- sum of individual digits
- letter, digit or a special symbol
- Elephant
- Even or odd
- profit or loss
- Grade
- Coordinate

# Welcome for you with condition:

**Problem statement:**

Given two numbers A and B. Print "Yes" if A is greater than or equal to B. Otherwise print "No".

**Input:**

2 integers.

**Output:**

Yes, or No

**Example 1:**


**Example 2:**

# Sum of individual digits:

**Problem statement:**

Given an integer of three digits, calculate the sum of the individual digits.

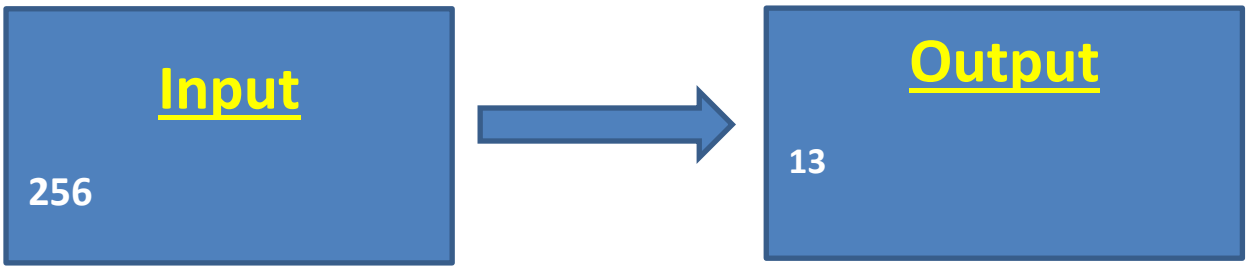
**Input:**

1 integer.

**Output:**

1 integer.

**Example 1:**



# Letter, digit, or special symbol:

**Problem statement:**

A character is entered through keyboard. Write a C program to determine whether the character entered is a capital letter, a small case letter, a digit or a special symbol using if-else and switch case.

The following table shows the range

* Characters ASCII values

A – Z →65 – 90

a – z →97 – 122

0 – 9 →48 – 57

*Special symbols → 0 – 47, 58 – 64, 91 – 96, 123 – 127

**Input:**

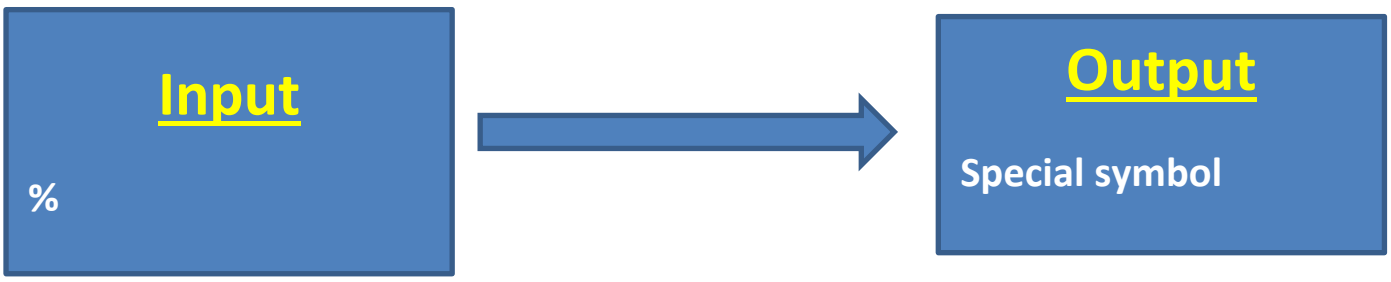
1 char.

**Output:**

Letter, digit, or special symbol

**Example 1:**


**Example 2:**



# Elephant

**Problem statement:**

An elephant decided to visit his friend. It turned out that the elephant's house is located at point 0 and his friend's house is located at point x(x > 0) of the coordinate line. In one step the elephant can move 1, 2, 3, 4 or 5 positions forward.
Determine, what is the minimum number of steps he needs to make in order to get to his friend's house.

**Input:**

1 integer.

**Output:**

1 integer.

*The minimum number of steps he needs to make in order to get to his friend's house.

**Example 1:**

# Even or Odd:

**Problem statement:**

Write a program that reads an input (x). If (x) is even output "EVEN" otherwise output "ODD" .

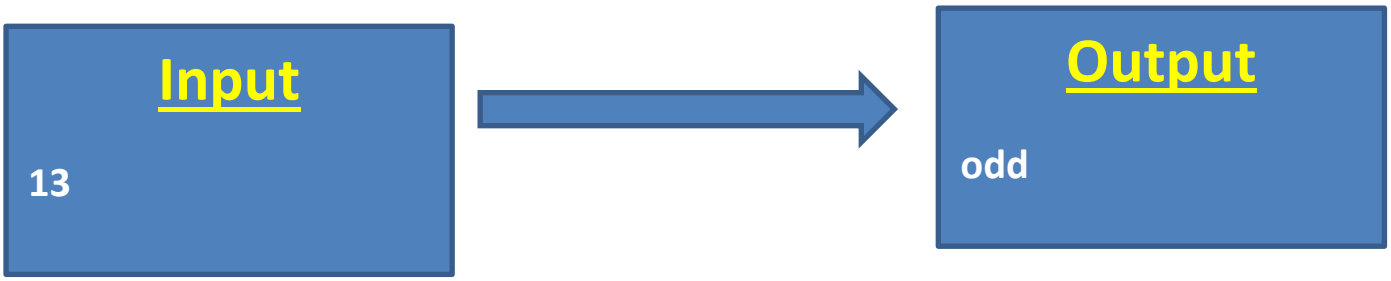
**Input:**

1 integer.

**Output:**

Even or odd

**Example 1:**




**Example 2:**

# Profit or loss

**Problem statement:**

If cost price and selling price of an item is input through the keyboard, write a program to determine whether the seller has made profit or incurred loss. Write a C program to determine how much profit or loss incurred in percentage.

**Input:**

2 integers, cost price and selling price.

**Output:**

1 integer.

**Example 1:**


**Example 2:**

# Grade:

**Problem statement:**

given the academic grade of one student determine his evaluation A, B, C, D, or F, Following that:

A when grade >= 90

B when grade >= 75

C when grade >= 60

D when grade >= 50

F when grade <50

**Input:**

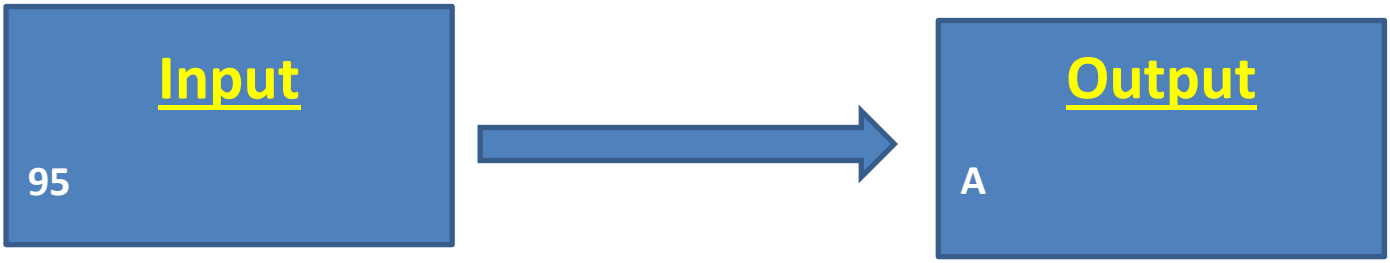
1 integer.

**Output:**

A, B, C, D, or F.

**Example 1:**


**Example 2:**



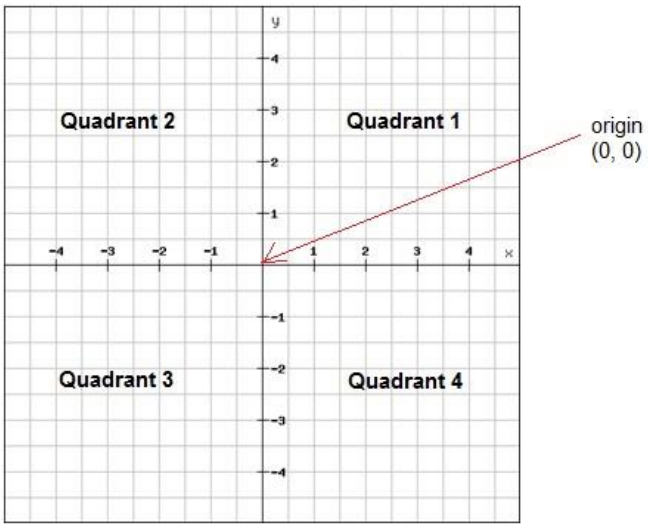
# Point Coordinate:

## Problem statement:

Problem statement: Given two numbers X, Y which donate coordinates of a point in 2D plan. Determine in which quarter it belongs.

## Notes:

- Output Q1, Q2, Q3, Q4 according to the quarter in which the point belongs to.
- Output "Origen" If the point is at the origin.
- Output "X-axis" If the point is over X axis.
- Output "Y-axis" if the point is over Y axis




## Input:

2 numbers: x, y

## Output:

in which quarter the point belongs

## Example 1:


## Example 2: