COMSATS University Islamabad, Abbottabad Campus

**Department of Computer Science**

**LAB #3**

**Object Oriented Programming Class: BSE- 3 A & B**

***Note: Use of classes, objects and methods is compulsory, also suggest the names for classes and methods.***

Q1 A serial transmission line can transmit 960 characters a second. Write a program that will calculate how long it will take to send a file, given the file's size. Try it on a 400MB (419,430,400 byte) file.

Q2 Suppose that the tuition for a university is PKR 100,000 this year and tuition increases 10% every year. In how many years will the tuition be doubled?

Q3. The country A has 50M inhabitants, and its population grows 3% per year. The country B, 70M and grows 2% per year. Tell in how many years A will surpass B.

Q4. Write a program in that input a three digits number and display it in reverse order. For example the number is 789 and output will be 987.

Q5. Write a program that inputs a number and check whether it is palindrome or not. A palindrome is a number that reads the same backwards such as 525 and 53235 and so on.

Q6. Write a program to enter cost price and selling price of a product and check for any profit or loss also calculate total profit or loss using if else.

Q7. Write a program to read a positive number from standard input device to display the number and digit the output should look like as:

|  |  |
| --- | --- |
| **Input is:** | **1985** |
| **Output:** | 5 |
|  | 8 |
|  | 9 |
|  | 1 |

And also display the sum 5+8+9+1 = 23

Q6. Write a menu driven program using do-while loop that inputs a value and a type of conversion. The program should output the value after conversion. The program should include the following conversions.

**Main Menu**

|  |  |  |
| --- | --- | --- |
| [1]. | Convert Centimeter into Inches | (1 inch = 2.54 cm) |
| [2]. | Liters into Gallons | (1 gallon = 3.785 ltrs) |
| [3]. | Kilometers into Miles | (1 mile = 1.609 km) |
| [4]. | Kilograms into Pounds | (1 pound = .4536 kg) |
| [5]. | Exit |  |

**My choice:**

Make sure the program accepts only valid choices for the type of conversion to perform.

Q7. Draw the following shapes using nested loops

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \***

**\* \* \***

**\* \* \***

**\* \* \***

**\* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \* \* \***

**\* \* \* \* \***

**\* \* \* \* \***

**\* \* \* \***

**\* \* \* \* \***

**\* \* \* \* \***

**\* \* \* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \***

**\* \* \* \***

**\* \* \***

**\* \* \* \***

**\* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \***

**\* \* \***

**\* \* \***

**\* \* \***

**\* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \***

**\* \***

**\* \***

**\* \***

**\* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \***

**\* \***

**\* \* \* \* \* \* \***

**\* \***

**\* \***

**\* \* \* \* \* \* \***

**\***

**\* \***

**\* \***

**\* \***

**\* \***

**\* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \***

**\* \***

**\* \***

**\* \***

**\* \***

**\***

**\* \* \* \* \* \* \***

**\* \* \***

**\* \* \***

**\* \* \* \* \* \* \***

**\* \* \***

**\* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \***

**\* \***

**\* \***

**\* \***

**\* \***

**\* \***

**\* \***

**\* \* \***

**\* \* \* \***

**\* \* \* \* \***

**\***

**\* \***

**\* \***

**\* \***

**\* \***

**\* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \***

**\* \* \* \* \***

**\* \* \* \***

**\* \* \***

**\* \***

**\***

**\* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \***

**\* \* \* \* \***

**\* \* \* \***

**\* \* \***

**\* \***

**\***

**\* \* \* \* \* \* \***

**\* \* \* \* \* \***

**\* \* \* \* \***

**\* \* \* \***

**\* \* \***

**\* \***

**\***

**\***

**\* \* \***

**\* \* \* \* \***

**\* \* \* \* \* \* \***

**\* \* \* \* \***

**\* \* \***

**\***

**\***

**\* \***

**\* \* \***

**\* \* \* \***

**\* \* \* \* \***

**\* \* \* \* \* \***

**\* \* \* \* \* \* \***