

C# Basics- Lab Assignments

- 1 Write a program to calculate the area and circumference of a circle using the relation. (Area = πr^2) and circumference = $2\pi r$.
- 2 Write a program to find sum, difference, product and quotient of any two integers as per the choice of the user.
- 3 Write a program to print a chart showing the temperature in centigrade from 0° to 100° to with their corresponding values in Fahrenheit, using while loop and using the relation $C / 5 = F - 32 / 9$
- 4 Write a program to print the square and cube of n natural numbers using while loop.
- 5 Write a program to check whether a given integer is even or odd or zero. The program should continue until a 0 is entered from the keyboard.
- 6 Write a program to calculate the interest and total amount to be paid by entering the amount of loan and the number of years, either by simple interest method or by compound interest method as per the choice of the user.

(Compound

Formula for calculating compound interest:

$$A = P \left(1 + \frac{r}{n} \right)^{nt}$$

Where,

- A = final amount
- P = principal amount (initial investment)
- r = annual nominal interest rate (as a decimal)
- n = number of times the interest is compounded per year
- t = number of years

Example usage: An amount of \$1500.00 is deposited in a bank paying an annual interest rate of 4.3%, compounded quarterly. Find the balance after 6 years.

A. Using the formula above, with $P = 1500$, $r = 4.3/100 = 0.043$, $n = 4$, and $t = 6$:

$$A = 1500 \left(1 + \frac{0.043}{4} \right)^{4 \times 6} = 1938.84$$

So, the balance after 6 years is approximately \$1,938.84.)

- 7 Write a program to convert ASCII value to its equivalent character
- 8 Accept a number and add its digits together till it reaches to a single digit
- 9 Accept a number and print it in reverse order
- 10 Determine if a string is alphabetic or not
- 11 Write a program that accepts a number and converts to hexadecimal number
- 12 Write a program to accept a number and print its binary format
- 13 Program to count the number of words and characters in a sentence
- 14 Program to enter a sentence and print the occurrences of vowels in that
- 15 Program to generate N Random numbers between any two specified numbers
- 16 Write a program to accept a string and replace all the characters except the last character with "*"
- 17 Write a program to print the numbers 1, 101 and 1001.
- 18 Write a program that converts a number in the range [0...999] to a text corresponding to its English pronunciation. Examples:

0 → "Zero"
 273 → "Two hundred seventy three"
 400 → "Four hundred"
 501 → "Five hundred and one"
 711 → "Seven hundred and eleven"

- 19 Write a program to print the first 100 members of the sequence of Fibonacci: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, ...
- 20 Write a program in C# Sharp to find the sum of the series 1 + 11 + 111 + 1111 + .. n terms.

Test Data :

Input the number of terms : 5

Expected Output :

1 + 11 + 111 + 1111 + 11111 +

The Sum is : 12345