



UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

INFORMATION SYSTEMS DEGREE PROGRAMME

FRIST YEAR

IS1101 – Programming and Problem Solving

Assignment – 1

Assignment Type:	Take Home Assignment
Duration:	2 Weeks
Deadline:	30 th August 2022, before 23:55pm
Evaluation Method:	Individual viva from each student
Submitting media:	Zip file to the VLE
Submitting Instructions:	Rename your programs to their question numbers. Ie. "1.c" for the code of 1 st question. Create a folder with your index number and copy all 3 program files and its executables. Zip it and upload to the given link before the above-mentioned deadline. Note that all the programs should run without any errors and should give desired output at the time of viva.

1. Write a game application in C that plays the children's game of rock, paper, and scissors. The user enters a letter, indicating a choice. R/r corresponding to rock, P/p corresponding to paper, and S/s corresponding to scissors. The computer's choice is compared to the user's choice according to the rules: rock breaks scissors, scissors cut paper, paper covers rock. Choices that match are ties. Display whether user won, lost or match was tie. The application should end when the user enters an invalid choice.
2. Write a program in C to calculate the date of birth from a given Sri Lankan NIC number in both OLD and NEW format.

3. Write a program in C to enter GPA values in 12 students using the console. Declare an array in the main method to store them. Write separate methods to perform following operations.
- Calculate the total of the elements in the array and then return the total.
 - Calculate the average of the elements in the array and then return the average.
 - Find the minimum and maximum elements in the array.
 - Find the element which appears the maximum number of times in the array.

Call the above defined methods within the main method. Results of all of 4 functions above should be displayed in the console when the user enters 12 GPA values.

4. Write a C program to get a multi word sentence and a word and check whether the given word is in the sentence or not. If yes, print the index of the word, else print 0.

Ex: Input Sentence: "It is funny to learn C programming"

Input word: ear

Output: 16 (starting index of letter 'e' of the word "ear" counting from 0)