National Institute of Technology Calicut
Department of Computer Science and Engineering
B. Tech. (CSE) – First Semester
CS1091E: Programming Laboratory
Problem Set – 3

Submission deadline (on or before):

- 12/09/23, 5:00 PM

Policies for Submission and Evaluation:

- You must submit your programs in the moodle (Eduserver) course page, on or before the submission deadline. Also, ensure that your programs compile and execute without errors in the linux platform. During evaluation, failure to execute programs without compilation errors may lead to zero marks for that program. Detection of ANY malpractice can lead to awarding an F grade in the course.

Naming Conventions for Individual Program

- $PS < PROBLEM\_SET\_NUMBER > \_ < ROLLNO > \_ < FIRST - NAME > \_ < PROGRAM - NUMBER > . < extension >$ (For example: $PS03\_BxxyyyyCS\_LAXMAN\_1.c$). Please make sure that you follow the naming conventions correctly.

Naming Conventions for Submission

- Submit a single ZIP (.zip) file (do not submit in any other archived formats like .rar, .tar, .gz) containing the source code (.c file) for the three programs. The name of this file must be $PS < PROBLEM\_SET\_NUMBER > \_ < ROLLNO > \_ < FIRST - NAME > .zip$ (For example: $PS03\_BxxyyyyCS\_LAXMAN.zip$). DO NOT add any other files (like temporary files, input files, etc.) except your source code, into the zip archive.

Standard of Conduct

- Violations of academic integrity will be severely penalized. Each student is expected to adhere to high standards of ethical conduct, especially those related to cheating and plagiarism. Any submitted work MUST BE an individual effort. Any academic dishonesty will result in zero marks in the corresponding exam or evaluation and will be reported to the department council for record keeping and for permission to assign F grade in the course.

General Instructions

- Programs should be written in C language and compiled using C compiler in Linux platform. Sample inputs are just indicative. **Submit the solutions to <u>questions 1, 2, and 3</u> as a single .zip file through the submission link in Eduserver**.

QUESTIONS

1. Write a C program that when given time in minutes, converts it to time in hours and minutes.

   Input and output format:

   - Input: *time in minutes*
   - Output: *....hrs...minutes*

   Sample input and output:

   - Input: *235*
   - Output: *3 hrs 55 minutes*

2. Write a C program to compute the sum of the digits of a 3 digit number.

   Input and output format:

   - Input: *a 3-digit integer*
   - Output: *Digit0=< digit0 >, Digit1=< digit1 >, Digit2=< digit2 >, sum=< sum >*

   Sample input and output:

   - Input: *542*
   - Output: *Digit0=2, Digit1=4, Digit2=5, sum=11*

   Note: Digits are printed in reverse order.
   Hint: Use division and modulus (%) operators

3. Write a C program that when given the marks (out of 100) in 3 courses with course codes A, B and C prints the course code and corresponding marks for each course in a separate line and in the next line prints the total marks and percentage. Use floating point variables named *marksA, marksB, marksC*.

   Input and output format:

   - Input: *Marks for course A, marks for course B, and marks for course C(out of 100).*
   - Output: *Course code and marks for each course in separate lines, and the total marks and percentage in the next line.*

   Sample input and output:

   - Input:
           marksA= 85
           marksB= 92
           marksC= 78

- Output:

  Course A: 85.000000

  Course B: 92.000000

  Course C: 78.000000

  Total Marks: 255.000000

  Percentage: 85.000000