ಭಾರತೀಯ ಮಾಹಿತಿ ತಂತ್ರಜ್ಞಾನ ಸಂಸ್ಥೆ ರಾಯಚೂರು
भारतीय सूचना प्रौद्योगिकी संस्थान रायचूर
Indian Institute of Information Technology Raichur

Lab - 7

Introduction to Programming
(ID110) Date: December 18, 2024
Topics: Strings

Time: 1.5 Hr | CSE'24, Semester - I | Max marks: 10

Instructions:

- The lab session consists of **two programming questions**, and **both are mandatory**.
- External materials (e.g., notes, books) and electronic devices (e.g., mobile phones, smart watch, bluetooth) are **strictly prohibited**. Only a **blank sheet of paper** and a **pen** may be used for rough work.
- Internet usage is **not allowed** under any circumstances. Any violations will lead to **serious academic consequences**, including potential disqualification from the lab.
- Any form of **plagiarism or academic dishonesty** will be treated with the utmost seriousness and may result in severe penalties, including a zero for the lab or further disciplinary actions.
- Code must be written from scratch during the session. Pre-written code snippets or solutions will not be accepted. Use meaningful variable names and add appropriate comments where necessary.
- Upon completion, **two code files** named after **roll no.** (e.g., "CS24B1001-Lab7-p1.c" and "CS24B1001-Lab7-p2.c") must be submitted on **Google Classroom**. Not follow- ing the naming convention will lead to **minus marking**. The submission will only be accepted if done in the presence of TA.
- Logic-based questions(like "Why my code is not working?", "Why my code is not giving the correct output?", "Why it is giving errors?", "What we have to do in this question?", etc.) will not be entertained by us as this is the final lab evaluation for this course.
- But if you face any problem in understanding or language in the question we will be there for you. But it will not help you in solving the question.

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1. Write a C program that reads a string inputStr entered by the user and copies its contents into another string copyStr using a loop. Ensure that the program handles string termination correctly and outputs the copied string copyStr.

Input Format:

- A string inputStr entered by the user.
- Use fgets() to ensure safe input (accepts spaces and stops reading at a newline).

Output Format:

- The copied string copyStr, which should be identical to inputStr.

Examples:

- **Input:**

  Enter string inputStr: hello world

  Output:

  String copyStr: hello world

(5 marks)

2. Write a C program that takes a string as input from the user, reverses it, and displays both the original and reversed strings. Ensure the program uses the following requirements:

   - Use the fgets function to read the input string safely.
   - Remove the newline character (\n) introduced by fgets.
   - Use a loop to reverse the string without using any built-in string reversal functions.
   - Print both the original and reversed strings.

   Input Format:

   - A single line of input containing a string str of up to 100 characters, which may include spaces.

   Output Format:

   - The program should display the original string and its reversed version on separate lines.

   Examples:

   - **Input:**

     Enter a string: hello world

     Output:

     Original String: hello world

     Reversed String: dlrow olleh

   - **Input:**

     Enter a string: Hello, World! This is a test, with commas, spaces, and punctuation.

Output:

Original String: Hello, World! This is a test, with commas, spaces, and punctuation.

Reversed String: .noitautcnup dna ,secaps ,sammoc htiw ,tset a si sihT !dlroW ,olleH

(5 marks)

All the Best!