Homework 1

Unit 1: Introduction to Computing and Number Systems

CSI-140 Introduction to Programming

Instructor: Dr. Vikas Thammanna Gowda Semester: Fall 2025

Points: 100 Assigned Date: 09/05/2025 Due Date: 09/12/2025 (11:59 PM)

Name: ______ Section: _____

Failure to follow the instructions and submission guidelines may result in a reduction of up to 100% of the points.

Instructions

- Handwritten:
 - Write your name and course section.
 - Use the handout provided by the instructor to complete the HW. (There will be a few additional copies in the file folder outside my office door West Hall 200.)
 - Print a blank template from Canvas and write on it by hand.
 - Use the soft copy from Canvas and write directly on a tablet. Submit a single PDF file.

• Use of word processor:

- Add your name and course section.
- The homework should be answered in chronological order.
- Each question must be added in **bold** before answering.
- Submission must be a single PDF file.
- Why PDF? PDF files are universally compatible, meaning they can be opened and viewed on virtually any device with a PDF reader. This makes them ideal for sharing documents with a wide range of recipients, regardless of their software or hardware.
- Individual Work: This is an individual homework assignment. While you are encouraged to discuss the problem and possible approaches with your classmates, all work must be completed independently.
- Plagiarism Policy: Any form of plagiarism including copying code, solutions, or text from another student, use of AI to generate report/answers will be considered academic dishonesty and will be reported according to college policy.
- Late submission policy: 50% penalty for late submissions within 1 week; no credit after 1 week unless prior arrangements made.

Submission Guidelines:

- Drop off your completed assignment in the file folder outside my office door (West Hall 200) or turn it in during lecture sessions.
- All other submissions must be a single, PDF file that is clear and easy to read.

Rubric:

Criteria	Points	Grade
Name and Section are present in the submission	10	
Q1: Input(s)/Output(s) are identified clearly	5	
Q1: Following the steps yields the result	20	
Q2: Final answers are clearly indicated with appropriate base (1 point each)	6	
Q2: All intermediate steps are present (3 points each)	18	
Q2: Answers are correct (4 points each)	24	
Q3: Carry bits are correct	7	
Q3: Answer is correct	10	

Q1: Algorithm Design

For the problem statement below:

- 1. Identify the Input/s, Output/s.
- 2. Write down the **Steps** to solve the problem.
- 3. Make sure the **Steps** are clear and unambiguous.

Problem Statement: You are given a list of 10 quiz s points, how would you drop the lowest quiz score and de Input(s):	
Output(s):	
Steps:	
_	

Q2: Number System Conversion

Instructions: For each of the following questions:

- 1. Show all your work.
- 2. Clearly indicate the final answer.
- 3. Label appropriate bases.
- 4. Do not skip any intermediate steps.
- a. Convert the following Decimal number to Hexadecimal.

Given Decimal: $(51101)_{10}$	
Hexadecimal Equivalent:	
-	
Final Answer:	

b. Convert the following Decimal number to Binary.

Given Decimal: $(8791)_{10}$	
Binary Equivalent:	
Final Answer:	
r mai Answer:	

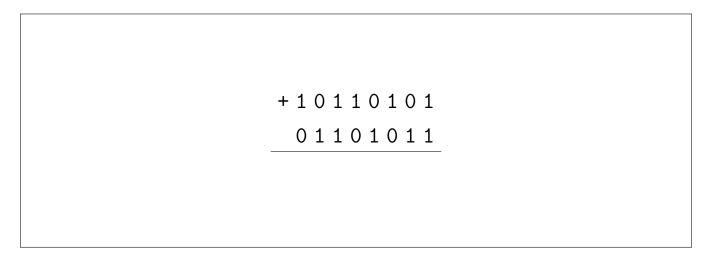
c. Convert the following Binary number to Decimal.

Given Binary: $(101101010)_2$	
Decimal Equivalent:	
T	
Final Answer:	
d Convert the following Dinary number to H.	ava dagimal
d. Convert the following Binary number to Ho	exadecimal.
Given Binary: $(10101010111100011001)_2$	exadecimal.
	exadecimal.
Given Binary: $(10101010111100011001)_2$	exadecimal.
Given Binary: $(10101010111100011001)_2$ Hexadecimal Equivalent:	exadecimal.

e. Convert the following Hexadecimal number to Decimal.

Given Hexadecimal: $(B055)_{16}$
Decimal Equivalent:
Final Answer:
f. Convert the following Hexadecimal number to Binary.
Given Hexadecimal: (DECAF) ₁₆ Binary Equivalent:
Final Answer:
I mai Answei.

Q3: Add the following Binary numbers. Show the carry bits.



Use this space if needed.

