

# Homework 4

## Loops in C++

CSI-140 Introduction to Programming

Instructor: Dr. Vikas Thammanna Gowda

Semester: Fall 2025

Points: 100

Assigned Date: 10/17/2025

Due Date: 10/24/2025 (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	10	
Part 1: Valid code blocks	30	
Part 2: No logical error	20	
Part 2: Valid code block	20	
Part 2: No logical error	20	

# Build a Casino Game System Using Loops

Follow these steps to master loop structures while building an exciting casino game system. You'll work with the provided `games.cpp` starter code and complete each part by implementing different loop types for various gambling games.

## Initial Setup

Your casino starts with these values:

- `player_balance` = 1000 (starting chips)
- `minimum_bet` = 10
- `maximum_bet` = 500

**Note:** Ensure the bet amount is valid.

## Part 1: Slot Machine Game Using For Loop

Create a 3-reel slot machine that:

- Uses a for loop to "spin" 3 reels
- Each reel randomly generates a number 1-7
- Winning conditions:
  - All three match: Win 10x the bet
  - Two match: Win 2x the bet
  - No matches: Lose the bet
- Update player balance accordingly

**Give the code block that ensures a valid bet amount**(5 points)



Give the code block of the for loop that assigns values to reels.(15 points)

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Give the code block that checks the winning condition(10 points)

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Test with bet amount = 50 and record the output for 3 spins: (10 points)

Spin	Reel 1	Reel 2	Reel 3	Result	New Balance
1					
2					
3					

Test with your bet amount and record the output for 3 spins: (10 points)

amount = \_\_\_\_\_

Spin	Reel 1	Reel 2	Reel 3	Result	New Balance
1					
2					
3					

## Part 2: Dice Game (Craps) Using While Loop

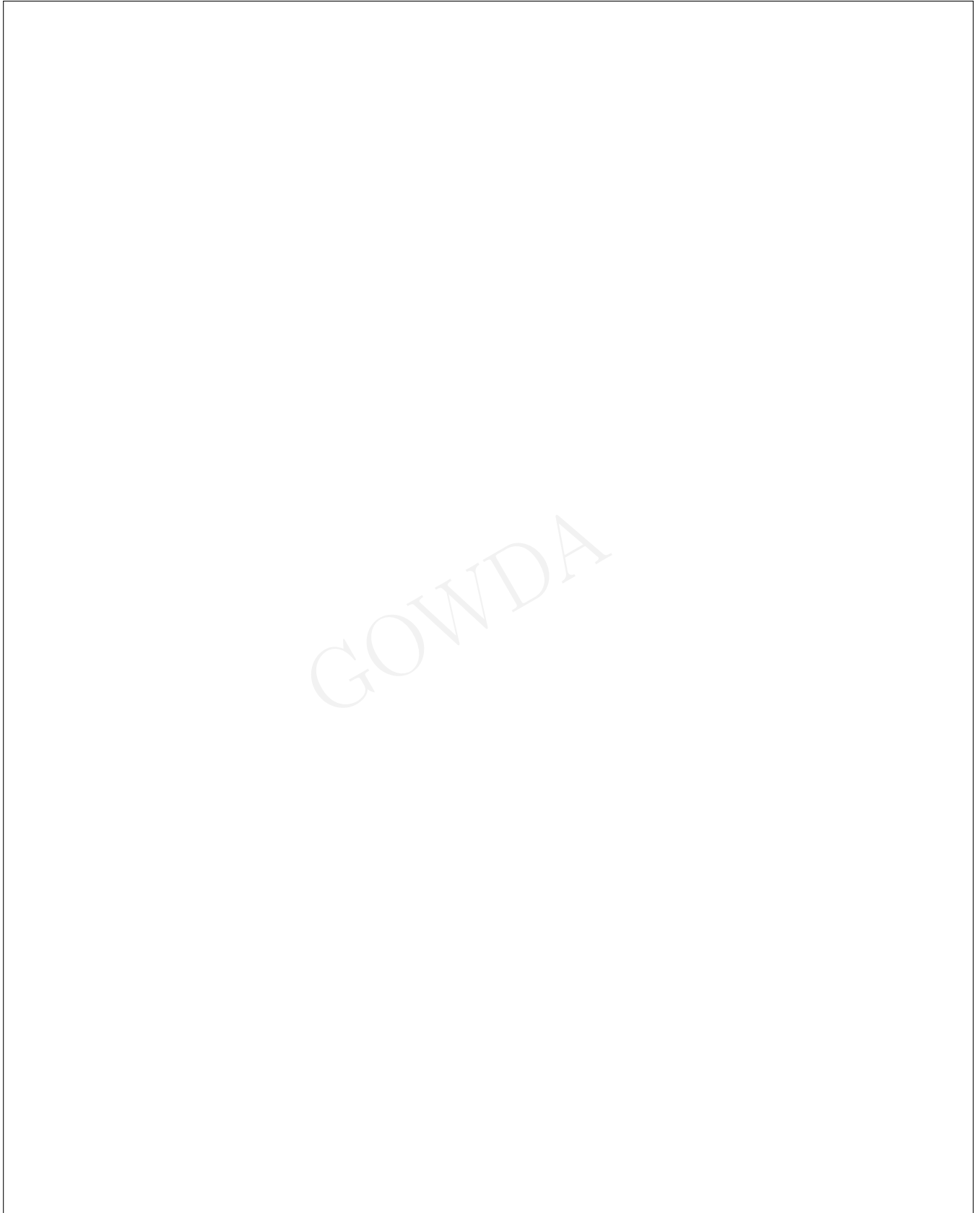
Implement a simplified Craps game where:

- Player rolls two dice (use while loop to keep playing)
- First roll: 7 or 11 = instant win (2x bet), 2 or 12 = instant loss
- Any other number becomes the "point"
- Keep rolling while trying to match the point
- If you roll 7 before matching point = lose
- If you match the point = win (1.5x bet)
- Game continues while player wants to play AND has money

**Give the code block of the while loop.**(20 points)

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contd...



**Record output for one complete game with bet = 100:** (10 points)

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**Record output for one complete game with your bet:** (10 points)

**bet =** \_\_\_\_\_

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