

**Project 1: *Sì-Wǔ-Liù***  
**(a.k.a. Cee-lo)**

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## **Introduction:**

Title: Sì-Wǔ-Liù

Sì-Wǔ-Liù is a basic dice gambling game played with three dice. It is often played in urban areas and was especially popular with Chinese-Americans. The American variant of the game “Cee-lo” has been referenced throughout the years in rap and hip-hop, aiding in the popularity of the game.

Sì-Wǔ-Liù can be played either with a banker or not. The game is generally most often played with a banker, and so the variant shown in my program is done with a predetermined banker with a single player. Similarly to craps, it uses a point system for dice rolls along with specific roll combinations. The banker normally changes from player to player but in this program it will not. The banker sets up an initial stake or “bank” and the other players will bet until the entire bank is covered or the players do not wish to bet further. If any portion of the bank is not covered, the uncovered amount is given back to the banker and the game proceeds with the stakes that were covered.

The banker rolls the dice once bets have been made. When the dice are rolled, four types of outcomes are possible:

If the banker rolls a 4, 5, and 6, called 4-5-6 straight kill, or if all three dice are the same (triples), or if the banker rolls a non-6 pair with an individual 6, it is an automatic win and the banker collects all bets.

If the banker rolls a 1, 2, and 3, called 1-2-3 straight loss, or if the banker rolls a non-1 pair with an individual 1, it is an automatic loss and the players break the bank.

If the banker rolls a pair and a single, the single dice is the banker’s “point”.

If the banker does not roll any of the above combinations, they roll again until they do so.

If the banker rolls a point, the players roll the dice to decide winners individually against the banker’s point.

The outcomes are the same except players do not automatically win with a non-6 pair with a single 6 and they do not automatically lose with a non-1 pair with a single 1.

If the player rolls a point, the point is compared to the banker’s point. The player wins with a higher point, lose with a lower point, if the points are tied the player rolls again.

The payouts differ based on variant however generally a 4-5-6 roll pays two times the bet, a roll of all 1s pay five times the bet, and regular non-1 triples pay three times the bet.

## **Program Summary:**

Lines: about 400

Variables: 20

Libraries: 6

## **Pseudocode:**

Libraries:

iostream

cstdlib

ctime

fstream

cctype

math.h

Variables:

Int: roll1, roll2, roll3, dice1, dice2, dice3, point1, point2

char: fileAsk, betAsk

bool: betting, bRoll, pRoll

const float: bank, stBal

float: noCover, cover, bet, bankbal, balance

Display starting bank and player balance

Begin betting phase

Ask if the player wants to bet

If no: end

If yes: ask how much

If bank is covered, end betting phase

If bank is not covered, return to start of betting phase

Roll banker's dice

Sort dice from least to greatest

Check dice combinations:

Three of the same , 4 5 6, non-6 pair with 6 are automatic win

1 2 3, non-1 pair with 1 are automatic lose

Pair with single => single is the point

If none of these, roll again

If there is a point, set that point for the banker (point1)

Roll player's dice

Check dice combinations:

1 1 1 automatic win, bet \* 5

Three of the same automatic win, bet \* 3

4 5 6 automatic win, bet \*2

1 2 3 automatic lose

Pair with single => single is the point

If none of these, roll again

If there is a point, set that point for the player (point2)

If there are two points, compare them

If the banker is higher, banker wins

If the player is higher, player wins

Display the final bank balance and player balance

Ask if the player wants to output the result to file

If no, end program

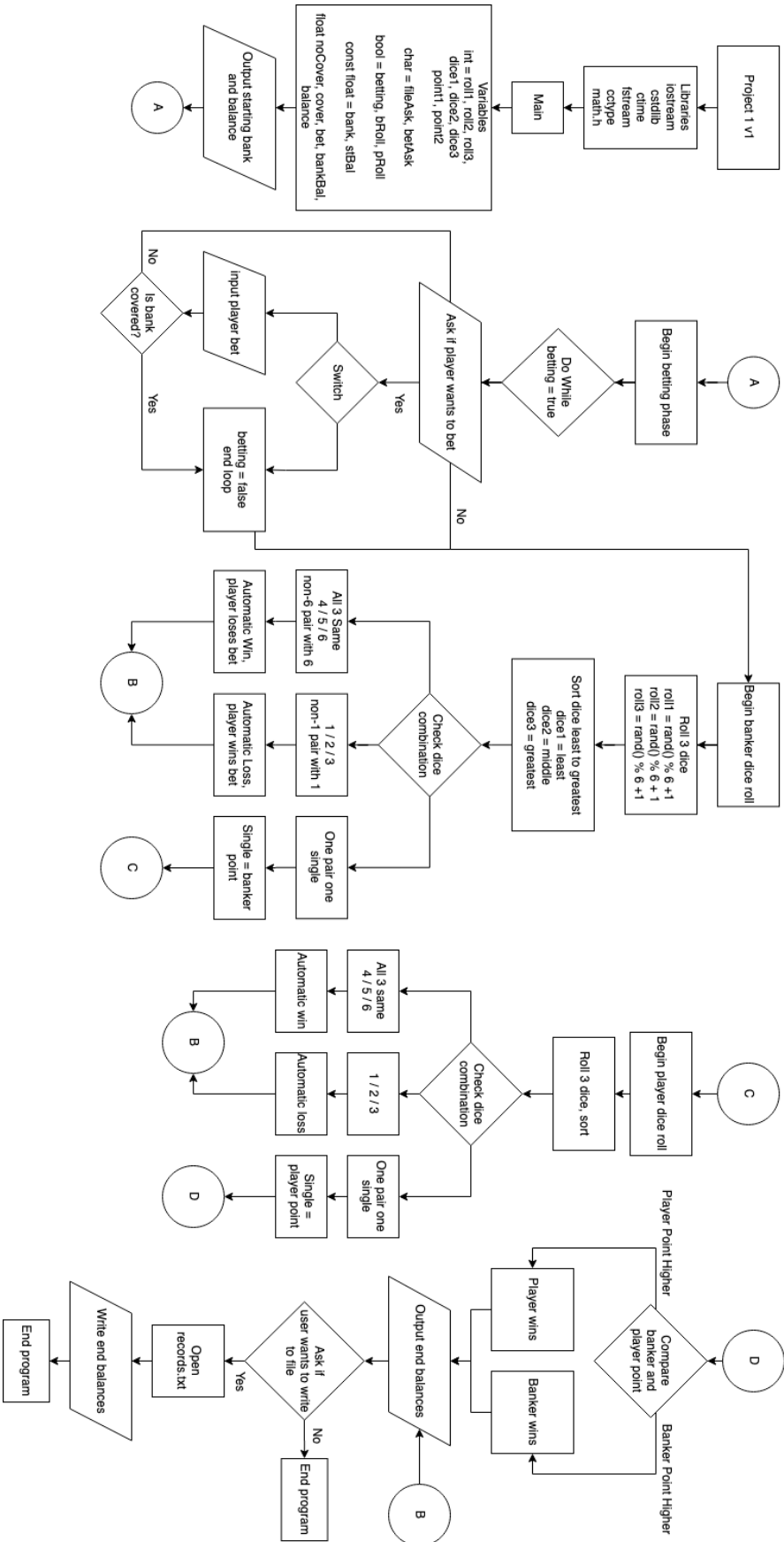
If yes, open records.txt

Write end balances to file

Close records.txt

End program

Flowchart:



## Input and Output Example

```
The starting bank is $1000.5
Player starting balance is $100

The bank is: $1000.5
The current unconvered amount is: $1000.5
Player current balance is: $100

Would you like to make a bet? [Y/N]: Y

You can bet up to $100: 100

Your new balance is: $0

Banker rolls the dice.
The banker's roll is: 3 3 and 4

The banker's point is: 4
Player rolls the dice.
The player's roll is: 2 5 and 3

Player rolls the dice.
The player's roll is: 2 6 and 6

The player's point is: 2

Banker has a higher point. Player loses $100

The banker ends with $1101
The player ends with $0
Would you like to record this result? [Y/N]: Y
Session recorded.
```