SORRY!

Project II

A classic family board game, coded in C++

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Project 1: **Sorry! v2.0**

Introduction

For my first project in C++, I decided to go with the popular family game *Sorry!* It's a turn-based pursuit game where one – four players use both strategy and luck to get their pawn to the finish line. I decided to code this game not just because I loved it as a kid, but because I could clearly see the overall architecture of the game as an opportunity to use almost all of the program logic we have learned in the semester.

Development Summary

The program is a C++ Application. It was developed using the NetBeans 7.4 IDE with the Cygwin compiler. The development of the project consists of many conditions for the user. Although the game is a very simple concept, I wanted to make sure the program would not crash under any conditions. Input validation was paramount! There is currently only one working function, which checks to see if the user's input is a positive integer. This function is called many times throughout the program. An average game takes a while to complete, which is why I stressed the importance of input validation. I did not want any crashes after the players invested a large amount of time into a game, nor did I want a confused player to break the rules and make illegal plays.

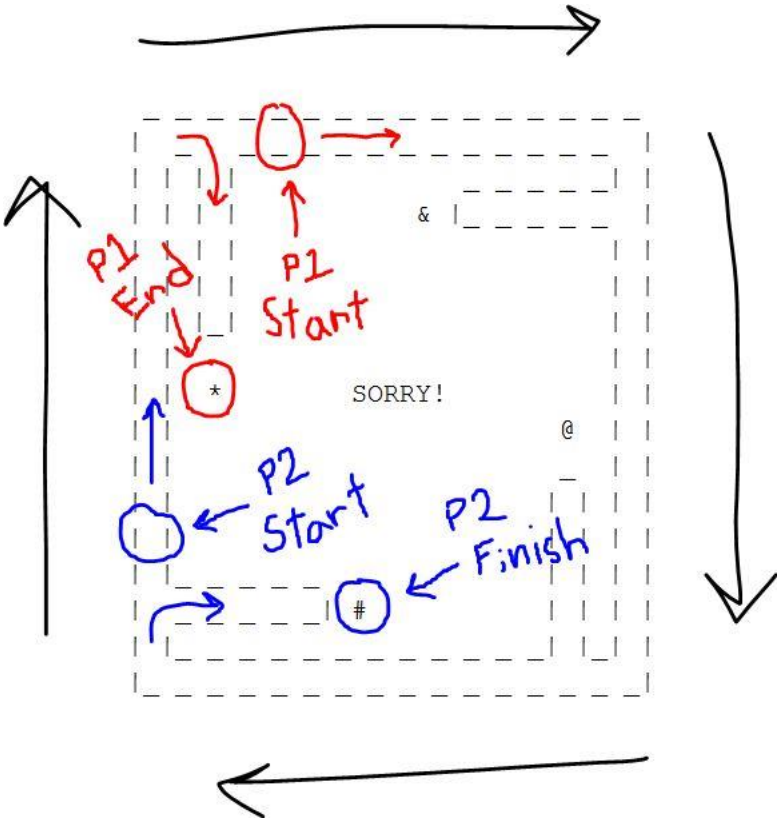
Total lines of source file	**9,200**
Project Size	**2.94 MB**

```
Please enter the number of players: 4

                    4 player Mode

Player 1        Player 2        Player 3        Player 4
--------        --------        --------        --------
    *               #               &               @

        PLAYER 1'S TURN:
Press the Enter key to draw a card!

You drew a 5!
1. Move 5 spaces forward
2. Skip turn

Which choice would you like to make? 1
That's an illegal move!
Which choice would you like to make? 
```

The heart of the program lies in a do-while loop, which contains two sets of nested if statements and switches. One set applies to the user, and the other applies to the AI. The first set is a bit more complex because it has much more conditions to prevent the user from inputting invalid choices. The game relies entirely on 11 possible, randomly generated cards, and each card has its own menu of possible actions and switch statements.

Game Play and Rules

The rules for *Sorry!* are fairly simple: Get your pawn onto the game board (start), progress through the board, and exit through to the end point (finish).



Player 1 (*)

Player 2 (#)

The Output on the left (The Game Board) is printed each time a player's pawn (*, #) position has changed.

Note: Each player's pawn is displayed on a separate game board.

At the beginning of each turn, a player draws a card. There are 11 different types of cards:

"1". – Start or 1 space forward

"2". – Start or 2 spaces forward

"3". – 3 spaces forward

"4". – 4 spaces backward

"5". – 5 spaces forward

"7". – 7 spaces forward or move opponent 7 spaces backward

"8". – 8 spaces forward

"10". – 10 spaces forward or 1 step backward

"11". – 11 spaces forward or a Switch places with an opposing pawn or skip turn

"12". – 12 spaces forward

"Sorry!" – Remove the opponent's pawn off the game board

Game Play and Rules (cont.)

Note: There is no "6" and "9" cards.

Cards “7”, “10”, and “11” offer choices to move in the opposite direction, as well as moving the opponent. This is where strategy comes into play

Key Rules:

1. **One Card per Turn** – Each player can draw only one card per turn.
2. **One or Two to Start** – You must draw a “1” or a “2” in order to put your pawn on the game board and begin progressing through the board. If you draw anything else while your pawn is not on the board, you must skip your turn! (You must repeat this process if you are ejected from the game)
3. **Play the Card** – You must select an action when prompted. You can only skip a turn if no other legal move is available.

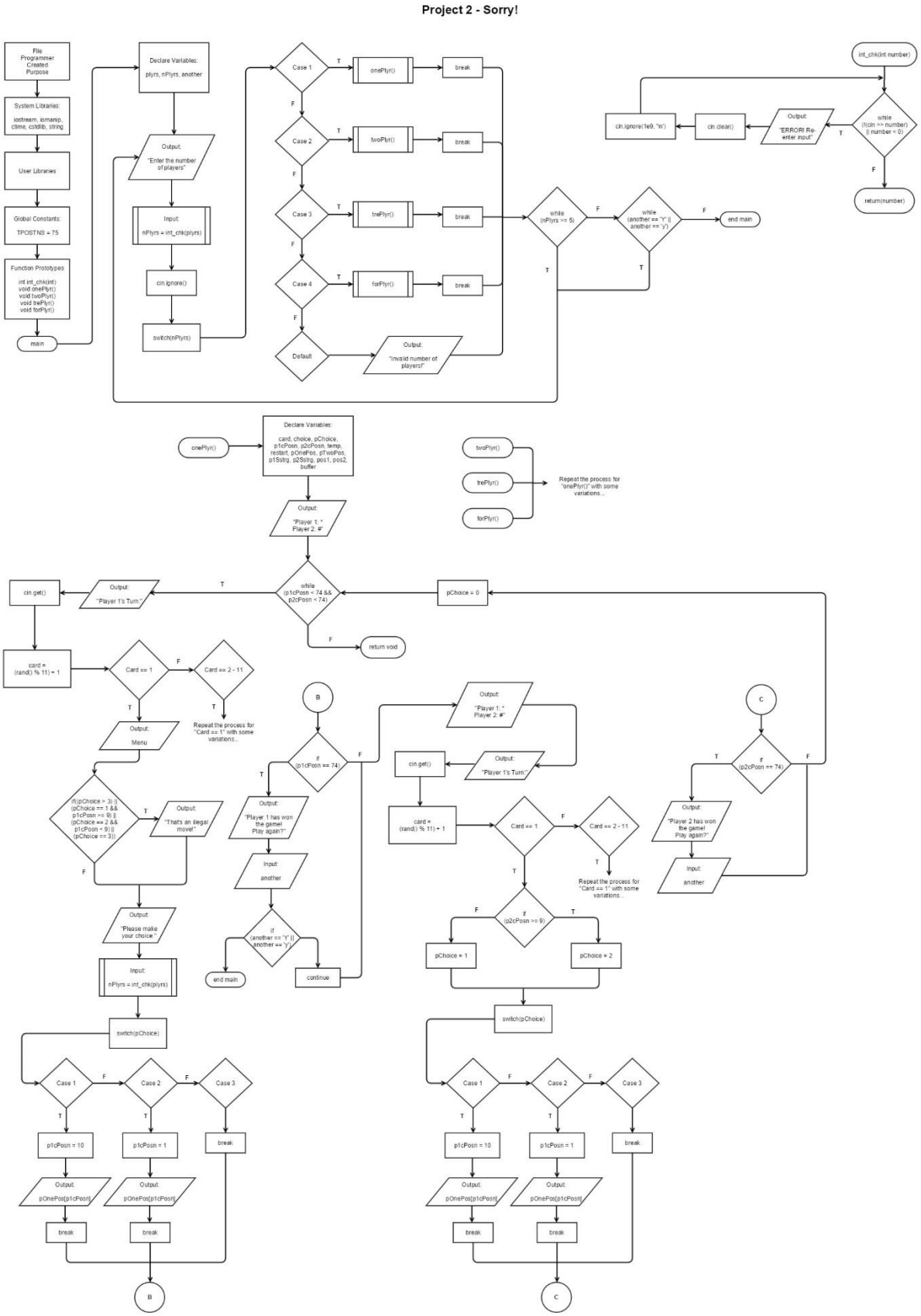
Key Rules for version 2.0:

1. **Sorry! Bump** – When one player’s pawn lands on the same space as an opponent’s pawn, the opponent’s pawn gets removed from the game board (Optional: the player who overtakes the spot can tell the other player, “Sorry!”)
2. **Safe Zone** – When a player reaches their last stretch of spaces (space number 69 – 73, the outward rectangle that goes inside the board), the can no longer be removed from the game, under any circumstances.
3. **Exact Count** – Once in the safe zone, the player must draw an exact number of spaces for their pawn to exit the game board. Example. A pawn on space 71 must draw a 3! If they draw a 5, they will go back down the safe zone, to space 70. (Note: a pawn doesn’t leave the safe zone)

Key Features for version 2.0:

1. **Four Pawns** – Each player will have four pawns instead of four.
2. **Multiplayer** – Add support for 2 – 4 players
3. **Slides** – Certain spaces on the board will allow a specific pawn to slide across a given number of spaces.
4. **Updated “7” and “*Sorry!*”** – An updated version of the “7” and “*Sorry!*” cards.
5. **One Game Board** – All pawns will be displayed on the same game board, instead of each pawn having a separate one.

FlowChart


Project 2 - Sorry!
File Programmer Created Purpose
System Libraries: iostream, iomanip, ctime, cstdlib, string
User Libraries
Global Constants: TPOSTNS = 75
Function Prototypes: int int_chk(int) void onePlyr() void twoPlyr() void trePlyr() void forPlyr()
main
Declare Variables: plyrs, nPlyrs, another
Output: "Enter the number of players"
Input: nPlyrs = int_chk(plyrs)
cin.ignore()
switch(nPlyrs)
Case 1
onePlyr()
break
Case 2
twoPlyr()
break
Case 3
trePlyr()
break
Case 4
forPlyr()
break
Default
Output: "invalid number of players!"
while (nPlyrs >= 5)
while (another == 'Y' || another == 'y')
end main
int_chk(int number)
while (!(cin >> number) || number < 0)
Output: "ERROR! Re-enter input"
cin.clear()
cin.ignore(1e9, '\n')
return(number)
onePlyr()
Declare Variables: card, choice, pChoice, p1cPosn, p2cPosn, temp, restart, pOnePos, pTwoPos, p1Strg, p2Strg, pos1, pos2, buffer
twoPlyr()
trePlyr()
forPlyr()
Repeat the process for "onePlyr()" with some variations...
Output: "Player 1: " Player 2: #"
while (p1cPosn < 74 && p2cPosn < 74)
pChoice = 0
return void
cin.get()
Output: "Player 1's Turn:"
card = (rand() % 11) + 1
Card == 1
Card == 2 - 11
Repeat the process for "Card == 1" with some variations...
Output: Menu
if(pChoice > 3 || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 2 && p1cPosn > 9) || (pChoice == 3))
Output: "That's an illegal move!"
Output: "Please make your choice:"
Input: nPlyrs = int_chk(plyrs)
switch(pChoice)
Case 1
Case 2
Case 3
p1cPosn = 10
p1cPosn = 1
break
Output: pOnePos[p1cPosn]
break
B
if (p1cPosn == 74)
Output: "Player 1 has won the game! Play again?"
Input: another
if (another == 'Y' || another == 'y')
end main
continue
C
if (p2cPosn == 74)
Output: "Player 2 has won the game! Play again?"
Input: another
if (p2cPosn >= 9)
pChoice = 1
pChoice = 2

Pseudocode

Initialize
Do
    Do
        Print "Please enter the number of players"
        Input number of players
        Switch number of players
        Case one
            Print "AI Version"
        Case two
            Print "2 Player version"
        Case three
            "Print "3 Player version"
        Case four
            "Print "4 Player version"
        Default
            "This game can only be played with 1 – 4 players"

    While number of players is greater than or equal to five

    While player 1's current position is less than 74 and player 2's current position is less than 74
        Set the card to a random number from one to eleven
        If card has value one
            Print menu
            Do
                If player choice is greater than three, or player choice is equal to one and player one's current position is greater than or equal to nine, or player choice is equal to two and player one's current position is less than nine, or player choice is equal to three
                    Print "'that's an illegal move!"
                Print "which choice would you like to make?"
                Input player choice

            While player choice is greater than three, or player choice is equal to one and player one's current position is greater than or equal to nine, or player choice is equal to two and player one's current position is less than nine, or player choice is equal to three
            Switch player choice
            Case one
                Set player one's current position to ten
                Print player one array with player one's position value
            Case two
                Increment player one's current position by one
                Print player one array with player one's position value
            Case three
                Exit switch statement

        Repeat for cards two through eleven
        If player one's current position is equal to 74
            Print "Player one has won the game!"
            Print "Play again?"
            Input yes or no
                If yes
                    Exit the do-while loop
                If no

Pseudocode (cont.)

Exit the program

Print "Player two's turn"
Generate a random card from one to eleven
If card has value one
Print "player 2 drew a 1"
If player two's current position is greater than or equal to nine
Set player's choice equal to two

Else
Set player choice equal to one

Switch player choice
Case one
Print "player 2 chose to start"
Set player two's current position to ten
Print player two array with value of player two's current position

Case two
Print "player 2 chose to move one space forward"
Increment player two's current position by one
Print player two array with value of player two's current position

Repeat for cards two through eleven
If player two's current position is greater than 74
Print "Player two has won the game!"
Print "Play again?"
Input yes or no

Set player's choice to zero

While another equals yes

Print "Good-bye!"
Exit the program

Input validation function

Input number
While number is not an unsigned short or less than zero
Print "Error! Input must be a nonnegative integer"

Return number

C++ Concepts

Chapter	Concept	Example
2	Comments	//Print players and their symbols
	The '"cout" Object	cout << "\nPlease enter the number of players: ";
	Variables & Literals	p1cPosn = 74;
	Data Types	unsigned short card = 0;
	Arithmetic Operators	p2cPosn = 15 - (60 - temp);
	Scope	int main()
		unsigned short plyrs, nPlyrs;
3	The "cin" Object	cin >> another;
	Mathematical Experssions	p1cPosn = 60 + temp - 15;
	Formatting Ouput	cout << setw(25) << "PLAYER 1'S TURN:";
	Characters & String Objects	char another;
		string pTwoPos[TPOSTNS] =
	Library Functions	cin.get();
4	"if" Statements	if(card == 1)
	"if-else" Statements	else if(card == 2)
	Nested "if" Statements	if(card == 1)
		if(p2cPosn >= 9)
	"if-else-if" Statements	else if(card == 9)
		if(p1cPosn > 74)
	Logical Operators	if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9))
	Menus	cout << "1. Move 3 spaces forward" << endl;
	Validating User Input	while(!(cin >> number) || number < 0)
	"switch" Statements	switch(pChoice)
	Blocks	else if(card == 10) {
		}
5	Increment / Decrement Operators	p1cPosn += 11;
	"while" Loops	while(p1cPosn < 74 && p2cPosn < 74)
	"do while" loops	do
		} while(nPlyrs >= 5);
	Nested Loops	do
		while(p1cPosn < 74 && p2cPosn < 74)
		} while(another == 'Y' || another == 'y');
	Using files for Data Storage	ifstream in_p1("Player1_GameBoards.txt")
6	Defining & Calling Functions	int int_chk(int number)
	Function Protoypes	int int_chk(int);
	Sending Data	pChoice = int_chk(choice);
	Passing Data	return(number);
	"return" statements	return(number);
7	Accessing Arrays	cout << pOnePos[p1cPosn];
	Array Initialization	string pOnePos[TPOSTNS] =

Major Variables

Type	Variable Name	Description
const unsigned short	TPOSTNS	the total number of positions a pawn can have during a game
unsigned short	card	a random number from 1 to 11, simulates a deck of cards
unsigned short	choice	the users input after they are prompted with a cards menu
unsigned short	pChoice	the users input for a menu, after it has been validated to be a positive integer
unsigned short	plyrs	the user's input regarding the number of players
unsigned short	nPlyrs	the number of players, after it has been validated to be a positve integer
unsigned short	p1cPosn	the value of player 1's current position
unsigned short	p2cPosn	the value of player 2's current position
unsigned short	p3cPosn	the value of player 3's current position
unsigned short	p4cPosn	the value of player 4's current position
unsigned short	temp	holds player 1 or player 2's temprorary position value during a switch of positions
char	another	"Yes" or "No" input from the user, determines whether or not to loop the program
int	number	assigned to "pChoice" after it has been validated to be a nonnegative integer
bool	restart	Bypasses the remaining players turn
string	pOnePos	Array containing Player 1 game boards (*)
string	pTwoPos	Array containing Player 2 game boards (#)
string	pTrePos	Array containing Player 3 game boards (&)
string	pForPos	Array containing Player 4 game boards (@)
string	p1Sstrg	substrings
string	p2Sstrg	substrings
string	p3Sstrg	substrings
string	p4Sstrg	substrings
size_t	pos1	Cursors for creating substrings
size_t	pos2	Cursors for creating substrings
stringstream	buffer	variable for the string stream buffer

References

Cover image - http://www.sodahead.com/fun/favorite-card-game/question-3450103/?page=5

Gaddis – Starting Out with C++

Savitch – Problem Solving with C++

http://www.cplusplus.com/

http://stackoverflow.com/

Program

```
/**
 *  @file main.cpp
 *  @author Uriel Salazar
 *  @date May 4, 2015, 6:11 PM
 *  @brief CSC5 Project II
 *
 *  College programming project: The family board game "Sorry!" by Parker
 *  Brothers coded and developed in C++, using NetBeans IDE and Cygwin compiler.
 *  Riverside City College - CSC5 (Program Logic using C++) Section: 43952
 */

//System Libraries
#include <iostream>     //Input/Output Library
#include <iomanip>      //Parametric Library
#include <ctime>        //Time Library
#include <cstdlib>      //Utilities Library
#include <string>       //String Library
#include <fstream>      //File Stream Library
#include <sstream>      //String stream library
using namespace std;    //Input/Output Library under standard namespace

//User Libraries

//Global Constants
const unsigned short TPOSTNS = 75;     //Total number of positions for any player (74)

//Function Prototypes
int int_chk(int);       //Function to validate input is a positive integer
void onePlyr();         //One player version (AI version)
void twoPlyr();         //Two player version
void trePlyr();         //Three player version
void forPlyr();         //Four player version

/**
 * @brief main
 *
 * This is the main function of the program, execution begins here.
 *
 * @return Void
 */
int main()
{
    //Declare variables
    unsigned short plyrs, nPlyrs;               //Number of players (1 - 4)
    char another;                               //Variable for new game (Yes or No)

    //Output program title
    cout << setw(24) << " CSC5 Project 2 " << endl;
    cout << setw(24) << "by Uriel Salazar" << endl;
    cout << setw(24) << "----------------" << endl;
    cout << " _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ \n"
            "|                               |\n"
            "| | | |                 _ _ _ _ _| |\n"
            "| | | |           & |           |\n"
            "| | | |                         | |\n"
            "| | | |                         | |\n"
            "| | |_|                         | |\n"
            "| |                             | |\n"
            "| |  *        SORRY!            | |\n"
            "| |                          @  | |\n"
            "| |                          _  | |\n"
            "| |                        | | | |\n"
            "| |                        | | | |\n"
            "| |_ _ _ _ _               | | | |\n"
            "|           | #            | | | |\n"
            "| |_ _ _ _ _ _ _ _ _ _ _ _ _| |_| |\n"
            "|_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _|\n";
```

```
    //Loop the main menu
    do
    {
        //Prompt user for number of players
        do
        {
            //Prompt user for number of players
            cout << "\nPlease enter the number of players: ";
            nPlyrs = int_chk(plyrs);
            cin.ignore();

            //Determine number of players
            switch (nPlyrs)
            {
                case 1:
                    onePlyr();
                    break;
                case 2:
                    twoPlyr();
                    break;
                case 3:
                    trePlyr();
                    break;
                case 4:
                    forPlyr();
                    break;
                default:
                    cout << "\nThis game can only be played with 1 - 4 players" << endl;
            }
        } while(nPlyrs >= 5);       //End do-while loop
        cout << endl;

        //Prompt the user if they would like to play again
        cout << "Would you like to play again? (Y/N)? ";
        cin >> another;

    //Exit or repeat the do-while loop
    } while(another == 'Y' || another == 'y');

    //Exit the program
    cout << "\nGood-bye!" << endl;
    return 0;
}

/**
 * @brief One Player Mode
 *
 * This version only prompts for input once, then uses a series of if-statements
 * to simulate an artificial intelligence.
 * Introduces the asterisk character (*) and the octothorpe characters.
 * Utilizes the player 1 and player 2 game boards.
 *
 * @return Void
 */
void onePlyr()
{
    //Seed the random number generator
    srand(time(0));

    //Declare variables
    unsigned short card = 0;                    //Card drawn (Random)
    unsigned short choice, pChoice = 0;         //Which option the user wants after they draw a
card
    unsigned short p1cPosn = 0;                 //Player 1's current position on the game board
    unsigned short p2cPosn = 0;                 //Player 2's current position on the game board
    unsigned short temp = 0;                    //Hold a temporary value
    bool restart = false;                       //Bypasses the remaining players turn
    string pOnePos[TPOSTNS];                    //Array containing Player 1 game boards (*)
    string pTwoPos[TPOSTNS];                    //Array containing Player 2 game boards (#)
    string p1Sstrg, p2Sstrg;                    //Player 1 & 2 substrings
    size_t pos1 = 0, pos2;                      //Cursors for creating substrings
```

```
    stringstream buffer;                        //variable for the string stream buffer


    //Load the text file for player 1
    ifstream in_p1("Player1_GameBoards.txt");
    buffer << in_p1.rdbuf();
    p1Sstrg = buffer.str();

    //Read the text file into the player 1 array
    for(int i = 0; i < TPOSTNS; i++)
    {
        pos2 = p1Sstrg.find(",", pos1);                    //Search for the "," (position 2 will
be where the comma was found)
        pOnePos[i] = p1Sstrg.substr(pos1, (pos2-pos1));    //Make the substring
        pos1 = pos2 + 1;
    }

    //Load the text file for player 2
    ifstream in_p2("Player2_GameBoards.txt");
    buffer << in_p2.rdbuf();
    p2Sstrg = buffer.str();

    //Read the text file into the player 2 array
    for(int c = 0; c < TPOSTNS; c++)
    {
        pos2 = p2Sstrg.find(",", pos1);                     //Search for the "," (position 2 will
be where the comma was found)
        pTwoPos[c] = p2Sstrg.substr(pos1, (pos2-pos1));     //Make the substring
        pos1 = pos2 + 1;
    }

    //Output Title
    cout << endl;
    cout << setw(17) << "AI Mode" << endl;
    cout << endl;

    //Print players and their symbols
    cout << "Player 1 \t Player 2" << endl;
    cout << "-------- \t --------" << endl;
    cout << "    *    \t     #   " << endl;

    //Begin the game
    //Loop until a player exceeds their native 74 position
    while(p1cPosn < 74 && p2cPosn < 74)
    {
        cout << endl;
        cout << setw(25) << "PLAYER 1'S TURN:";
        cout << "\nPress the Enter key to draw a card! ";
        cin.get();

        //generate a random card
        card = (rand() % 11) + 1;
        cout << endl;

        //Determine the card value and apply the rules
        //Player 1 draws a "1"
        if(card == 1)
        {
            //Print the card's specific menu
            cout << "You drew a 1!" << endl;
            cout << "1. Start" << endl;
            cout << "2. Move 1 space forward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3))
                {
                    cout << "That's an illegal move!";
```

```
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn = 10;
                    cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                    break;
                case 2:
                    p1cPosn += 1;
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 1 draws a "2"
        else if(card == 2)
        {
            //Print the card's specific menu
            cout << "You drew a 2!" << endl;
            cout << "1. Start" << endl;
            cout << "2. Move 2 spaces forward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 1 && p1cPosn >=
9) || (pChoice == 3))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 1 && p1cPosn >=
9) || (pChoice == 3));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn = 10;
                    cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                    break;
                case 2:
                    p1cPosn += 2;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 1 draws a "3"
        else if(card == 3)
        {
            //Print the card's specific menu
            cout << "You drew a 3!" << endl;
            cout << "1. Move 3 spaces forward" << endl;
            cout << "2. Skip turn" << endl;
```

```
            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 3;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "4"
        else if(card == 4)
        {
            //Print the card's specific menu
            cout << "You drew a 4!" << endl;
            cout << "1. Move 4 spaces backward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn -= 4;

                    //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                    if(p1cPosn == 8)
                    {
                        p1cPosn = 68;
                    }
                    else if(p1cPosn == 7)
                    {
                        p1cPosn = 67;
                    }
                    else if(p1cPosn == 6)
                    {
                        p1cPosn = 66;
                    }
                    else if(p1cPosn == 5)
```

```
                    {
                        p1cPosn = 65;
                    }
                    else if(p1cPosn == 4)
                    {
                        p1cPosn = 64;
                    }
                    else if(p1cPosn == 3)
                    {
                        p1cPosn = 63;
                    }
                    else if(p1cPosn == 2)
                    {
                        p1cPosn = 62;
                    }
                    else if(p1cPosn == 1)
                    {
                        p1cPosn = 61;
                    }
                    else if(p1cPosn == 0)
                    {
                        p1cPosn = 60;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "5"
        else if(card == 5)
        {
            //Print the card's specific menu
            cout << "You drew a 5!" << endl;
            cout << "1. Move 5 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 5;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "7"
        else if(card == 6)
        {
            //Print the card's specific menu
```

```
            cout << "You drew a 7!" << endl;
            cout << "1. Move 7 spaces forward" << endl;
            cout << "2. Move the opponent 7 spaces backward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p2cPosn <
9) || (pChoice == 3 && p1cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p2cPosn <
9) || (pChoice == 3 && p1cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 7;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    p2cPosn -= 7;

                    //Determine if Player 2 has moved before their safe zone (P1-0 - P1-8)
                    if(p2cPosn == 8)
                    {
                        p2cPosn = 68;
                    }
                    else if(p2cPosn == 7)
                    {
                        p2cPosn = 67;
                    }
                    else if(p2cPosn == 6)
                    {
                        p2cPosn = 66;
                    }
                    else if(p2cPosn == 5)
                    {
                        p2cPosn = 65;
                    }
                    else if(p2cPosn == 4)
                    {
                        p2cPosn = 64;
                    }
                    else if(p2cPosn == 3)
                    {
                        p2cPosn = 63;
                    }
                    else if(p2cPosn == 2)
                    {
                        p2cPosn = 62;
                    }
                    else if(p2cPosn == 1)
                    {
                        p2cPosn = 61;
                    }
                    else if(p2cPosn == 0)
                    {
                        p2cPosn = 60;
                    }
                    cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                    break;
```

```
                case 3:
                    break;
            }
        }

        //Player 1 draws an "8"
        else if(card == 7)
        {
            //Print the card's specific menu
            cout << "You drew an 8!" << endl;
            cout << "1. Move 8 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 8;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "10"
        else if(card == 8)
        {
            //Print the card's specific menu
            cout << "You drew a 10!" << endl;
            cout << "1. Move 10 spaces forward" << endl;
            cout << "2. Move 1 space backward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3 && p1cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3 && p1cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 10;
                    if(p1cPosn > 74)
                    {
```

```
                    p1cPosn = 74;
                }
                cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                break;
            case 2:
                p1cPosn -= 1;

                //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                if(p1cPosn == 8)
                {
                    p1cPosn = 68;
                }
                else if(p1cPosn == 7)
                {
                    p1cPosn = 67;
                }
                else if(p1cPosn == 6)
                {
                    p1cPosn = 66;
                }
                else if(p1cPosn == 5)
                {
                    p1cPosn = 65;
                }
                else if(p1cPosn == 4)
                {
                    p1cPosn = 64;
                }
                else if(p1cPosn == 3)
                {
                    p1cPosn = 63;
                }
                else if(p1cPosn == 2)
                {
                    p1cPosn = 62;
                }
                else if(p1cPosn == 1)
                {
                    p1cPosn = 61;
                }
                else if(p1cPosn == 0)
                {
                    p1cPosn = 60;
                }
                cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                break;
            case 3:
                break;
        }
    }

    //Player 1 draws an "11"
    else if(card == 9)
    {
        //Print the card's specific menu
        cout << "You drew an 11!" << endl;
        cout << "1. Move 11 spaces forward" << endl;
        cout << "2. Switch places with an opposing pawn" << endl;
        cout << "3. Skip turn" << endl;

        //Check for legal move
        do
        {
            if((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) ||
              (pChoice == 2 && p2cPosn < 9) || (pChoice == 3 && p1cPosn >= 9))
            {
                cout << "That's an illegal move!";
            }
            cout << "\nWhich choice would you like to make? ";
            pChoice = int_chk(choice);
```

```
            } while((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) ||
                    (pChoice == 2 && p2cPosn < 9) || (pChoice == 3 && p1cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 11;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    if(p1cPosn >= 15 && p2cPosn >= 15)
                    {
                        temp = p1cPosn;
                        p1cPosn = p2cPosn - 15;
                        p2cPosn = temp + 15;
                    }
                    else if(p1cPosn >= 15 && p2cPosn <= 15)
                    {
                        temp = p1cPosn;
                        p1cPosn = 60 + p2cPosn - 15;
                        p2cPosn = 15 - (60 - temp);
                    }
                    else if(p1cPosn <= 15 && p2cPosn <= 15)
                    {
                        temp = p1cPosn;
                        p1cPosn = 60 + p2cPosn - 15;
                        p2cPosn = temp + 15;
                    }
                    else if(p1cPosn <= 15 && p2cPosn >= 15)
                    {
                        p1cPosn = p2cPosn - 15;
                        p2cPosn = p2cPosn - (p1cPosn - 10);
                    }

                    //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                    if(p1cPosn == 8)
                    {
                        p1cPosn = 68;
                    }
                    else if(p1cPosn == 7)
                    {
                        p1cPosn = 67;
                    }
                    else if(p1cPosn == 6)
                    {
                        p1cPosn = 66;
                    }
                    else if(p1cPosn == 5)
                    {
                        p1cPosn = 65;
                    }
                    else if(p1cPosn == 4)
                    {
                        p1cPosn = 64;
                    }
                    else if(p1cPosn == 3)
                    {
                        p1cPosn = 63;
                    }
                    else if(p1cPosn == 2)
                    {
                        p1cPosn = 62;
                    }
                    else if(p1cPosn == 1)
                    {
```

```
                    p1cPosn = 61;
                }
                else if(p1cPosn == 0)
                {
                    p1cPosn = 60;
                }

                //Determine if Player 2 has moved before their safe zone (P2-0 - P2-8)
                if(p2cPosn == 8)
                {
                    p2cPosn = 68;
                }
                else if(p2cPosn == 7)
                {
                    p2cPosn = 67;
                }
                else if(p2cPosn == 6)
                {
                    p2cPosn = 66;
                }
                else if(p2cPosn == 5)
                {
                    p2cPosn = 65;
                }
                else if(p2cPosn == 4)
                {
                    p2cPosn = 64;
                }
                else if(p2cPosn == 3)
                {
                    p2cPosn = 63;
                }
                else if(p2cPosn == 2)
                {
                    p2cPosn = 62;
                }
                else if(p2cPosn == 1)
                {
                    p2cPosn = 61;
                }
                else if(p2cPosn == 0)
                {
                    p2cPosn = 60;
                }
                cout << pOnePos[p1cPosn] << endl;
                cout << endl;
                cout << pTwoPos[p2cPosn] << endl;
                break;
            case 3:
                break;
        }
    }

    //Player 1 draws a "12"
    else if(card == 10)
    {
        //Print the card's specific menu
        cout << "You drew a 12!" << endl;
        cout << "1. Move 12 spaces forward" << endl;
        cout << "2. Skip turn" << endl;

        //Check for legal move
        do
        {
            if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
            {
                cout << "That's an illegal move!";
            }
            cout << "\nWhich choice would you like to make? ";
            pChoice = int_chk(choice);
```

```
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 12;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "Sorry!" card
        else
        {
            //Print the card's specific menu
            cout << "You drew a \"Sorry!\" Card!" << endl;
            cout << "1. Move an opponent's pawn off the game board!" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p2cPosn = 0;
                    cout << "\nPlayer 2 has been moved off the game board!" << endl;
                    cout << pTwoPos[0] << endl;
                    break;
                case 2:
                    break;
            }
        }

        //Determine whether Player 1 has won the game
        if(p1cPosn == 74)
        {
            cout << "\nPlayer 1 has won the game!" << endl;
            restart = true;
        }

        if(restart == false)
        {
            //Simulate the AI (Player 2)
            cout << endl;
            cout << setw(25) << "PLAYER 2'S TURN:";
            cout << "\nPress the Enter key to continue... ";
            cin.ignore();
            cin.get();

            //generate a random card
            card = (rand() % 11) + 1;
```

```
cout << endl;

//Determine the card value and apply the rules
//Player 2 draws a "1"
if(card == 1)
{
    cout << "Player 2 drew a 1!" << endl;

    //Check for legal move
    if(p2cPosn >= 9)
    {
        pChoice = 2;
    }
    else
    {
        pChoice = 1;
    }

    //Execute the desired action
    switch(pChoice)
    {
        case 1:
            cout << "Player 2 chose to start." << endl;
            p2cPosn = 10;
            cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
            break;
        case 2:
            cout << "Player 2 had to move 1 space forward." << endl;
            p2cPosn += 1;
            cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
            break;
    }
}

//Player 2 draws a "2"
else if(card == 2)
{
    cout << "Player 2 drew a 2!" << endl;

    //Check for legal move
    if(p2cPosn >= 9)
    {
        pChoice = 2;
    }
    else
    {
        pChoice = 1;
    }

    //Execute the desired action
    switch(pChoice)
    {
        case 1:
            cout << "Player 2 chose to start." << endl;
            p2cPosn = 10;
            cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
            break;
        case 2:
            cout << "Player 2 had to move 2 spaces forward." << endl;
            p2cPosn += 2;
            if(p2cPosn > 74)
            {
                p2cPosn = 74;
            }
            cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
            break;
    }
}

//Player 2 draws a "3"
else if(card == 3)
```

```
{
    cout << "Player 2 drew a 3!" << endl;

    //Check for legal move
    if(p2cPosn >= 9)
    {
        pChoice = 1;
    }
    else
    {
        pChoice = 2;
    }

    //Execute the desired action
    switch(pChoice)
    {
        case 1:
            cout << "Player 2 chose to move 3 spaces forward." << endl;
            p2cPosn += 3;
            if(p2cPosn > 74)
            {
                p2cPosn = 74;
            }
            cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
            break;
        case 2:
            cout << "Player 2 had to skip their turn." << endl;
            break;
    }
}

//Player 2 draws a "4"
else if(card == 4)
{
    cout << "Player 2 drew a 4!" << endl;

    //Check for legal move
    if(p2cPosn >= 9)
    {
        pChoice = 1;
    }
    else
    {
        pChoice = 2;
    }

    //Execute the desired action
    switch(pChoice)
    {
        case 1:
            cout << "Player 2 chose to move 4 spaces backward." << endl;
            p2cPosn -= 4;

            //Determine if Player 2 has moved before their safe zone (P2-0 - P2-8)
            if(p2cPosn == 8)
            {
                p2cPosn = 68;
            }
            else if(p2cPosn == 7)
            {
                p2cPosn = 67;
            }
            else if(p2cPosn == 6)
            {
                p2cPosn = 66;
            }
            else if(p2cPosn == 5)
            {
                p2cPosn = 65;
            }
            else if(p2cPosn == 4)
```

```
            {
                p2cPosn = 64;
            }
            else if(p2cPosn == 3)
            {
                p2cPosn = 63;
            }
            else if(p2cPosn == 2)
            {
                p2cPosn = 62;
            }
            else if(p2cPosn == 1)
            {
                p2cPosn = 61;
            }
            else if(p2cPosn == 0)
            {
                p2cPosn = 60;
            }
            cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
            break;
        case 2:
            cout << "Player 2 had to skip their turn." << endl;
            break;
    }
}

//Player 2 draws a "5"
else if(card == 5)
{
    cout << "Player 2 drew a 5!" << endl;

    //Check for legal move
    if(p2cPosn >= 9)
    {
        pChoice = 1;
    }
    else
    {
        pChoice = 2;
    }

    //Execute the desired action
    switch(pChoice)
    {
        case 1:
            cout << "Player 2 chose to move 5 spaces forward." << endl;
            p2cPosn += 5;
            if(p2cPosn > 74)
            {
                p2cPosn = 74;
            }
            cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
            break;
        case 2:
            cout << "Player 2 had to skip their turn." << endl;
            break;
    }
}

//Player 2 draws a "7"
else if(card == 6)
{
    cout << "Player 2 drew a 7!" << endl;

    //Check for legal move
    if(p1cPosn < (p2cPosn - 15) || p2cPosn >= 18)
    {
        pChoice = 1;
    }
    else if(p1cPosn > (p2cPosn - 15) && p1cPosn >= 18)
```

```
                {
                    pChoice = 2;
                }
                else
                {
                    pChoice = 3;
                }

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        cout << "Player 2 chose to move 7 spaces forward." << endl;
                        p2cPosn += 7;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
                        break;
                    case 2:
                        cout << "Player 2 chose to move their opponent 7 spaces backward." <<
endl;
                        p1cPosn -= 7;

                        //Determine if Player 2 has moved before their safe zone (P2-0 - P2-8)
                        if(p1cPosn == 8)
                        {
                            p1cPosn = 68;
                        }
                        else if(p1cPosn == 7)
                        {
                            p1cPosn = 67;
                        }
                        else if(p1cPosn == 6)
                        {
                            p1cPosn = 66;
                        }
                        else if(p1cPosn == 5)
                        {
                            p1cPosn = 65;
                        }
                        else if(p1cPosn == 4)
                        {
                            p1cPosn = 64;
                        }
                        else if(p1cPosn == 3)
                        {
                            p1cPosn = 63;
                        }
                        else if(p1cPosn == 2)
                        {
                            p1cPosn = 62;
                        }
                        else if(p1cPosn == 1)
                        {
                            p1cPosn = 61;
                        }
                        else if(p1cPosn == 0)
                        {
                            p1cPosn = 60;
                        }
                        cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                        break;
                    case 3:
                        cout << "Player 2 had to skip their turn." << endl;
                        break;
                }
            }

            //Player 2 draws an "8"
```

```
else if(card == 7)
{
    cout << "Player 2 drew an 8!" << endl;

    //Check for legal move
    if(p2cPosn >= 9)
    {
        pChoice = 1;
    }
    else
    {
        pChoice = 2;
    }

    //Execute the desired action
    switch(pChoice)
    {
        case 1:
            cout << "Player 2 chose to move 8 spaces forward." << endl;
            p2cPosn += 8;
            if(p2cPosn > 74)
            {
                p2cPosn = 74;
            }
            cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
            break;
        case 2:
            cout << "Player 2 had to skip their turn." << endl;
            break;
    }
}

//Player 2 draws a "10"
else if(card == 8)
{
    cout << "Player 2 drew a 10!" << endl;

    //Check for legal move
    if(p2cPosn < 9)
    {
        pChoice = 3;
    }
    else if(p2cPosn == 9 || p2cPosn == 10)
    {
        pChoice = 2;
    }
    else
    {
        pChoice = 1;
    }

    //Execute the desired action
    switch(pChoice)
    {
        case 1:
            cout << "Player 2 chose to move 10 spaces forward." << endl;
            p2cPosn += 10;
            if(p2cPosn > 74)
            {
                p2cPosn = 74;
            }
            cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
            break;
        case 2:
            cout << "Player 2 chose to move 1 space backwards." << endl;
            p2cPosn -= 1;

            //Determine if Player 2 has moved before their safe zone (P2-0 - P2-8)
            if(p2cPosn == 8)
            {
                p2cPosn = 68;
```

```
            }
            else if(p2cPosn == 7)
            {
                p2cPosn = 67;
            }
            else if(p2cPosn == 6)
            {
                p2cPosn = 66;
            }
            else if(p2cPosn == 5)
            {
                p2cPosn = 65;
            }
            else if(p2cPosn == 4)
            {
                p2cPosn = 64;
            }
            else if(p2cPosn == 3)
            {
                p2cPosn = 63;
            }
            else if(p2cPosn == 2)
            {
                p2cPosn = 62;
            }
            else if(p2cPosn == 1)
            {
                p2cPosn = 61;
            }
            else if(p2cPosn == 0)
            {
                p2cPosn = 60;
            }
            cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
            break;
        case 3:
            cout << "Player 2 had to skip their turn." << endl;
            break;
    }
}

//Player 2 draws an "11"
else if(card == 9)
{
    cout << "Player 2 drew an 11!" << endl;

    //Check for legal move
    if(p2cPosn >= 1 && p2cPosn < p1cPosn)
    {
        pChoice = 2;
    }
    else if(p2cPosn >= 10)
    {
        pChoice = 1;
    }
    else
    {
        pChoice = 3;
    }

    //Execute the desired action
    switch(pChoice)
    {
        case 1:
            cout << "Player 2 chose to move 11 spaces forwards." << endl;
            p2cPosn += 11;
            if(p2cPosn > 74)
            {
                p2cPosn = 74;
            }
            cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
```

```
        break;
    case 2:
        cout << "Player 2 chose to switch places with Player 1." << endl;
        if(p2cPosn >= 15 && p1cPosn >= 15)
        {
            temp = p2cPosn;
            p2cPosn = p1cPosn + 15;
            p1cPosn = temp - 15;
        }
        else if(p1cPosn >= 15 && p2cPosn <= 15)
        {
            temp = p2cPosn;
            p2cPosn = 15 - (60 - p1cPosn);
            p1cPosn = 60 + temp - 15;
        }
        else if(p1cPosn <= 15 && p2cPosn <= 15)
        {
            temp = p2cPosn;
            p1cPosn = p1cPosn + 15;
            p2cPosn = 60 - (15 - p2cPosn);
        }
        else if(p1cPosn <= 15 && p2cPosn >= 15)
        {
            temp = p2cPosn;
            p2cPosn = p1cPosn + 15;
            p1cPosn = 60 + (temp - 15);
        }

        //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
        if(p1cPosn == 8)
        {
            p1cPosn = 68;
        }
        else if(p1cPosn == 7)
        {
            p1cPosn = 67;
        }
        else if(p1cPosn == 6)
        {
            p1cPosn = 66;
        }
        else if(p1cPosn == 5)
        {
            p1cPosn = 65;
        }
        else if(p1cPosn == 4)
        {
            p1cPosn = 64;
        }
        else if(p1cPosn == 3)
        {
            p1cPosn = 63;
        }
        else if(p1cPosn == 2)
        {
            p1cPosn = 62;
        }
        else if(p1cPosn == 1)
        {
            p1cPosn = 61;
        }
        else if(p1cPosn == 0)
        {
            p1cPosn = 60;
        }

        //Determine if Player 2 has moved before their safe zone (P2-0 - P2-8)
        if(p2cPosn == 8)
        {
            p2cPosn = 68;
        }
```

```
                else if(p2cPosn == 7)
                {
                    p2cPosn = 67;
                }
                else if(p2cPosn == 6)
                {
                    p2cPosn = 66;
                }
                else if(p2cPosn == 5)
                {
                    p2cPosn = 65;
                }
                else if(p2cPosn == 4)
                {
                    p2cPosn = 64;
                }
                else if(p2cPosn == 3)
                {
                    p2cPosn = 63;
                }
                else if(p2cPosn == 2)
                {
                    p2cPosn = 62;
                }
                else if(p2cPosn == 1)
                {
                    p2cPosn = 61;
                }
                else if(p2cPosn == 0)
                {
                    p2cPosn = 60;
                }
                cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
                cout << endl;
                cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                break;
            case 3:
                cout << "Player 2 had to skip their turn." << endl;
                break;
        }
    }

    //Player 2 draws a "12"
    else if(card == 10)
    {
        cout << "Player 2 drew a 12!" << endl;

        //Check for legal move
        if(p2cPosn >= 10)
        {
            pChoice = 1;
        }
        else
        {
            pChoice = 2;
        }

        //Execute the desired action
        switch(pChoice)
        {
            case 1:
                cout << "Player 2 chose to move 12 spaces forward." << endl;
                p2cPosn += 12;
                if(p2cPosn > 74)
                {
                    p2cPosn = 74;
                }
                cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
                break;
            case 2:
                cout << "Player 2 had to skip their turn." << endl;
```

```
                    break;
                }
            }

            //Player 2 draws a "Sorry!" card
            else
            {
                cout << "Player 2 drew a \"Sorry!\" card!" << endl;

                //Check for legal move
                if(p1cPosn >= 1)
                {
                    pChoice = 1;
                }
                else
                {
                    pChoice = 2;
                }

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p1cPosn = 0;
                        cout << "Player 1 has been moved off the game board!" << endl;
                        cout << pOnePos[0] << endl;
                        break;
                    case 2:
                        cout << "Player 2 had to skip their turn." << endl;
                        break;
                }
            }

            //Determine whether player 2 has won the game
            if(p2cPosn >= 74)
            {
                cout << "\nPlayer 2 has won the game!" << endl;
            }
        }

        //Reset the player's choice
        pChoice = 0;

    //Exit or repeat the while loop
    }
}

/**
 * @brief Two Player Mode
 *
 * This function prompts for input twice; once for each human player.
 *
 * @return Void
 */
void twoPlyr()
{
    //Seed the random number generator
    srand(time(0));

    //Declare variables
    unsigned short card = 0;                    //Card drawn (Random)
    unsigned short choice, pChoice = 0;         //Which option the user wants after they draw a
card
    unsigned short p1cPosn = 0;                 //Player 1's current position on the game board
    unsigned short p2cPosn = 0;                 //Player 2's current position on the game board
    unsigned short temp = 0;                    //Hold a temporary value
    bool restart = false;                       //Bypasses the remaining players turn
    string pOnePos[TPOSTNS];                    //Array containing Player 1 game boards (*)
    string pTwoPos[TPOSTNS];                    //Array containing Player 2 game boards (#)
    string p1Sstrg, p2Sstrg;                    //Player 1 & 2 substrings
    size_t pos1 = 0, pos2;                      //Cursors for creating substrings
```

```
    stringstream buffer;                        //variable for the string stream buffer

    //Output Title
    cout << endl;
    cout << setw(20) << "2 player Mode" << endl;
    cout << endl;

    //Print players and their symbols
    cout << "Player 1 \t Player 2" << endl;
    cout << "-------- \t --------" << endl;
    cout << "    *    \t     #    " << endl;

    //Load the text file for player 1
    ifstream in_p1("Player1_GameBoards.txt");
    buffer << in_p1.rdbuf();
    p1Sstrg = buffer.str();

    //Read the text file into the player 1 array
    for(int i = 0; i < TPOSTNS; i++)
    {
        pos2 = p1Sstrg.find(",", pos1);                    //Search for the "," (position 2 will
be where the comma was found)
        pOnePos[i] = p1Sstrg.substr(pos1, (pos2-pos1));    //Make the substring
        pos1 = pos2 + 1;
    }

    //Load the text file for player 2
    ifstream in_p2("Player2_GameBoards.txt");
    buffer << in_p2.rdbuf();
    p2Sstrg = buffer.str();

    //Read the text file into the player 2 array
    for(int c = 0; c < TPOSTNS; c++)
    {
        pos2 = p2Sstrg.find(",", pos1);                     //Search for the "," (position 2 will
be where the comma was found)
        pTwoPos[c] = p2Sstrg.substr(pos1, (pos2-pos1));     //Make the substring
        pos1 = pos2 + 1;
    }

    //Begin the game
    //Loop until a player exceeds their native 74th position
    while(p1cPosn < 74 && p2cPosn < 74)
    {
        cout << endl;
        cout << setw(25) << "PLAYER 1'S TURN:";
        cout << "\nPress the Enter key to draw a card! ";
        cin.get();

        //generate a random card
        card = (rand() % 11) + 1;
        cout << endl;

        //Determine the card value and apply the rules
        //Player 1 draws a "1"
        if(card == 1)
        {
            //Print the card's specific menu
            cout << "You drew a 1!" << endl;
            cout << "1. Start" << endl;
            cout << "2. Move 1 space forward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3))
                {
                    cout << "That's an illegal move!";
                }
```

```
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn = 10;
                    cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                    break;
                case 2:
                    p1cPosn += 1;
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 1 draws a "2"
        else if(card == 2)
        {
            //Print the card's specific menu
            cout << "You drew a 2!" << endl;
            cout << "1. Start" << endl;
            cout << "2. Move 2 spaces forward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 1 && p1cPosn >=
9) || (pChoice == 3))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 1 && p1cPosn >=
9) || (pChoice == 3));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn = 10;
                    cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                    break;
                case 2:
                    p1cPosn += 2;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 1 draws a "3"
        else if(card == 3)
        {
            //Print the card's specific menu
            cout << "You drew a 3!" << endl;
            cout << "1. Move 3 spaces forward" << endl;
            cout << "2. Skip turn" << endl;
```

```
            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 3;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "4"
        else if(card == 4)
        {
            //Print the card's specific menu
            cout << "You drew a 4!" << endl;
            cout << "1. Move 4 spaces backward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn -= 4;

                    //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                    if(p1cPosn == 8)
                    {
                        p1cPosn = 68;
                    }
                    else if(p1cPosn == 7)
                    {
                        p1cPosn = 67;
                    }
                    else if(p1cPosn == 6)
                    {
                        p1cPosn = 66;
                    }
                    else if(p1cPosn == 5)
                    {
```

```
                    p1cPosn = 65;
                }
                else if(p1cPosn == 4)
                {
                    p1cPosn = 64;
                }
                else if(p1cPosn == 3)
                {
                    p1cPosn = 63;
                }
                else if(p1cPosn == 2)
                {
                    p1cPosn = 62;
                }
                else if(p1cPosn == 1)
                {
                    p1cPosn = 61;
                }
                else if(p1cPosn == 0)
                {
                    p1cPosn = 60;
                }
                cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                break;
            case 2:
                break;
        }
    }

    //Player 1 draws a "5"
    else if(card == 5)
    {
        //Print the card's specific menu
        cout << "You drew a 5!" << endl;
        cout << "1. Move 5 spaces forward" << endl;
        cout << "2. Skip turn" << endl;

        //Check for legal move
        do
        {
            if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
            {
                cout << "That's an illegal move!";
            }
            cout << "\nWhich choice would you like to make? ";
            pChoice = int_chk(choice);
        } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

        //Execute the desired action
        switch(pChoice)
        {
            case 1:
                p1cPosn += 5;
                if(p1cPosn > 74)
                {
                    p1cPosn = 74;
                }
                cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                break;
            case 2:
                break;
        }
    }

    //Player 1 draws a "7"
    else if(card == 6)
    {
        //Print the card's specific menu
        cout << "You drew a 7!" << endl;
```

```
            cout << "1. Move 7 spaces forward" << endl;
            cout << "2. Move the opponent 7 spaces backward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p2cPosn <
9) || (pChoice == 3 && p1cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p2cPosn <
9) || (pChoice == 3 && p1cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 7;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    p2cPosn -= 7;

                    //Determine if Player 2 has moved before their safe zone (P1-0 - P1-8)
                    if(p2cPosn == 8)
                    {
                        p2cPosn = 68;
                    }
                    else if(p2cPosn == 7)
                    {
                        p2cPosn = 67;
                    }
                    else if(p2cPosn == 6)
                    {
                        p2cPosn = 66;
                    }
                    else if(p2cPosn == 5)
                    {
                        p2cPosn = 65;
                    }
                    else if(p2cPosn == 4)
                    {
                        p2cPosn = 64;
                    }
                    else if(p2cPosn == 3)
                    {
                        p2cPosn = 63;
                    }
                    else if(p2cPosn == 2)
                    {
                        p2cPosn = 62;
                    }
                    else if(p2cPosn == 1)
                    {
                        p2cPosn = 61;
                    }
                    else if(p2cPosn == 0)
                    {
                        p2cPosn = 60;
                    }
                    cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                    break;
                case 3:
```

```
                    break;
                }
            }

            //Player 1 draws an "8"
            else if(card == 7)
            {
                //Print the card's specific menu
                cout << "You drew an 8!" << endl;
                cout << "1. Move 8 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p1cPosn += 8;
                        if(p1cPosn > 74)
                        {
                            p1cPosn = 74;
                        }
                        cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 1 draws a "10"
            else if(card == 8)
            {
                //Print the card's specific menu
                cout << "You drew a 10!" << endl;
                cout << "1. Move 10 spaces forward" << endl;
                cout << "2. Move 1 space backward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3 && p1cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3 && p1cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p1cPosn += 10;
                        if(p1cPosn > 74)
                        {
                            p1cPosn = 74;
```

```
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    p1cPosn -= 1;

                    //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                    if(p1cPosn == 8)
                    {
                        p1cPosn = 68;
                    }
                    else if(p1cPosn == 7)
                    {
                        p1cPosn = 67;
                    }
                    else if(p1cPosn == 6)
                    {
                        p1cPosn = 66;
                    }
                    else if(p1cPosn == 5)
                    {
                        p1cPosn = 65;
                    }
                    else if(p1cPosn == 4)
                    {
                        p1cPosn = 64;
                    }
                    else if(p1cPosn == 3)
                    {
                        p1cPosn = 63;
                    }
                    else if(p1cPosn == 2)
                    {
                        p1cPosn = 62;
                    }
                    else if(p1cPosn == 1)
                    {
                        p1cPosn = 61;
                    }
                    else if(p1cPosn == 0)
                    {
                        p1cPosn = 60;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 1 draws an "11"
        else if(card == 9)
        {
            //Print the card's specific menu
            cout << "You drew an 11!" << endl;
            cout << "1. Move 11 spaces forward" << endl;
            cout << "2. Switch places with an opposing pawn" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) ||
                  (pChoice == 2 && p2cPosn < 9) || (pChoice == 3 && p1cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
```

```
            } while((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) ||
                    (pChoice == 2 && p2cPosn < 9) || (pChoice == 3 && p1cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 11;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    if(p1cPosn >= 15 && p2cPosn >= 15)
                    {
                        temp = p1cPosn;
                        p1cPosn = p2cPosn - 15;
                        p2cPosn = temp + 15;
                    }
                    else if(p1cPosn >= 15 && p2cPosn <= 15)
                    {
                        temp = p1cPosn;
                        p1cPosn = 60 + p2cPosn - 15;
                        p2cPosn = 15 - (60 - temp);
                    }
                    else if(p1cPosn <= 15 && p2cPosn <= 15)
                    {
                        temp = p1cPosn;
                        p1cPosn = 60 + p2cPosn - 15;
                        p2cPosn = temp + 15;
                    }
                    else if(p1cPosn <= 15 && p2cPosn >= 15)
                    {
                        p1cPosn = p2cPosn - 15;
                        p2cPosn = p2cPosn - (p1cPosn - 10);
                    }

                    //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                    if(p1cPosn == 8)
                    {
                        p1cPosn = 68;
                    }
                    else if(p1cPosn == 7)
                    {
                        p1cPosn = 67;
                    }
                    else if(p1cPosn == 6)
                    {
                        p1cPosn = 66;
                    }
                    else if(p1cPosn == 5)
                    {
                        p1cPosn = 65;
                    }
                    else if(p1cPosn == 4)
                    {
                        p1cPosn = 64;
                    }
                    else if(p1cPosn == 3)
                    {
                        p1cPosn = 63;
                    }
                    else if(p1cPosn == 2)
                    {
                        p1cPosn = 62;
                    }
                    else if(p1cPosn == 1)
                    {
```

```
                    p1cPosn = 61;
                }
                else if(p1cPosn == 0)
                {
                    p1cPosn = 60;
                }

                //Determine if Player 2 has moved before their safe zone (P2-0 - P2-8)
                if(p2cPosn == 8)
                {
                    p2cPosn = 68;
                }
                else if(p2cPosn == 7)
                {
                    p2cPosn = 67;
                }
                else if(p2cPosn == 6)
                {
                    p2cPosn = 66;
                }
                else if(p2cPosn == 5)
                {
                    p2cPosn = 65;
                }
                else if(p2cPosn == 4)
                {
                    p2cPosn = 64;
                }
                else if(p2cPosn == 3)
                {
                    p2cPosn = 63;
                }
                else if(p2cPosn == 2)
                {
                    p2cPosn = 62;
                }
                else if(p2cPosn == 1)
                {
                    p2cPosn = 61;
                }
                else if(p2cPosn == 0)
                {
                    p2cPosn = 60;
                }
                cout << pOnePos[p1cPosn] << endl;
                cout << endl;
                cout << pTwoPos[p2cPosn] << endl;
                break;
            case 3:
                break;
        }
    }

    //Player 1 draws a "12"
    else if(card == 10)
    {
        //Print the card's specific menu
        cout << "You drew a 12!" << endl;
        cout << "1. Move 12 spaces forward" << endl;
        cout << "2. Skip turn" << endl;

        //Check for legal move
        do
        {
            if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
            {
                cout << "That's an illegal move!";
            }
            cout << "\nWhich choice would you like to make? ";
            pChoice = int_chk(choice);
```

```
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 12;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "Sorry!" card
        else
        {
            //Print the card's specific menu
            cout << "You drew a \"Sorry!\" Card!" << endl;
            cout << "1. Move an opponent's pawn off the game board!" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p2cPosn = 0;
                    cout << "\nPlayer 2 has been moved off the game board!" << endl;
                    cout << pTwoPos[0] << endl;
                    break;
                case 2:
                    break;
            }
        }

        //Determine whether Player 1 has won the game
        if(p1cPosn == 74)
        {
            cout << "\nPlayer 1 has won the game!" << endl;
            restart = true;
        }

        //Reset the player's choice
        pChoice = 0;

        //Begin Player 2's turn
        if(restart == false)
        {
            cout << endl;
            cout << setw(25) << "PLAYER 2'S TURN:";
            cout << "\nPress the Enter key to draw a card! ";
            cin.ignore();
            cin.get();
```

```
            //generate a random card
            card = (rand() % 11) + 1;
            cout << endl;

            //Determine the card value and apply the rules
            //Player 2 draws a "1"
            if(card == 1)
            {
                //Print the card's specific menu
                cout << "You drew a 1!" << endl;
                cout << "1. Start" << endl;
                cout << "2. Move 1 space forward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p2cPosn >= 9) || (pChoice == 2 &&
p2cPosn < 9) || (pChoice == 3))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p2cPosn >= 9) || (pChoice == 2 &&
p2cPosn < 9) || (pChoice == 3));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn = 10;
                        cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
                        break;
                    case 2:
                        p2cPosn += 1;
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 3:
                        break;
                }
            }

            //Player 2 draws a "2"
            else if(card == 2)
            {
                //Print the card's specific menu
                cout << "You drew a 2!" << endl;
                cout << "1. Start" << endl;
                cout << "2. Move 2 spaces forward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p2cPosn >= 9) || (pChoice == 1 &&
p2cPosn >= 9) || (pChoice == 3))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p2cPosn >= 9) || (pChoice == 1 &&
p2cPosn >= 9) || (pChoice == 3));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn = 10;
```

```
                        cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
                        break;
                    case 2:
                        p2cPosn += 2;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
                        break;
                    case 3:
                        break;
                }
            }

            //Player 2 draws a "3"
            else if(card == 3)
            {
                //Print the card's specific menu
                cout << "You drew a 3!" << endl;
                cout << "1. Move 3 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 3;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 2 draws a "4"
            else if(card == 4)
            {
                //Print the card's specific menu
                cout << "You drew a 4!" << endl;
                cout << "1. Move 4 spaces backward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
```

```
                } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn -= 4;

                        //Determine if Player 2 has moved before their safe zone (P1-0 - P1-8)
                        if(p2cPosn == 8)
                        {
                            p2cPosn = 68;
                        }
                        else if(p2cPosn == 7)
                        {
                            p2cPosn = 67;
                        }
                        else if(p2cPosn == 6)
                        {
                            p2cPosn = 66;
                        }
                        else if(p2cPosn == 5)
                        {
                            p2cPosn = 65;
                        }
                        else if(p2cPosn == 4)
                        {
                            p2cPosn = 64;
                        }
                        else if(p2cPosn == 3)
                        {
                            p2cPosn = 63;
                        }
                        else if(p2cPosn == 2)
                        {
                            p2cPosn = 62;
                        }
                        else if(p2cPosn == 1)
                        {
                            p2cPosn = 61;
                        }
                        else if(p2cPosn == 0)
                        {
                            p2cPosn = 60;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 2 draws a "5"
            else if(card == 5)
            {
                //Print the card's specific menu
                cout << "You drew a 5!" << endl;
                cout << "1. Move 5 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
```

```
                } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 5;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 2 draws a "7"
            else if(card == 6)
            {
                //Print the card's specific menu
                cout << "You drew a 7!" << endl;
                cout << "1. Move 7 spaces forward" << endl;
                cout << "2. Move the opponent 7 spaces backward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p1cPosn
< 9) || (pChoice == 3 && p2cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 3) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p1cPosn < 9) || (pChoice == 3 && p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 7;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        p1cPosn -= 7;

                        //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                        if(p1cPosn == 8)
                        {
                            p1cPosn = 68;
                        }
                        else if(p1cPosn == 7)
                        {
                            p1cPosn = 67;
                        }
                        else if(p1cPosn == 6)
                        {
                            p1cPosn = 66;
                        }
                        else if(p1cPosn == 5)
                        {
                            p1cPosn = 65;
```

```
                    }
                    else if(p1cPosn == 4)
                    {
                        p1cPosn = 64;
                    }
                    else if(p1cPosn == 3)
                    {
                        p1cPosn = 63;
                    }
                    else if(p1cPosn == 2)
                    {
                        p1cPosn = 62;
                    }
                    else if(p1cPosn == 1)
                    {
                        p1cPosn = 61;
                    }
                    else if(p1cPosn == 0)
                    {
                        p1cPosn = 60;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 2 draws an "8"
        else if(card == 7)
        {
            //Print the card's specific menu
            cout << "You drew an 8!" << endl;
            cout << "1. Move 8 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p2cPosn += 8;
                    if(p2cPosn > 74)
                    {
                        p2cPosn = 74;
                    }
                    cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 2 draws a "10"
        else if(card == 8)
        {
            //Print the card's specific menu
            cout << "You drew a 10!" << endl;
            cout << "1. Move 10 spaces forward" << endl;
```

```
                cout << "2. Move 1 space backward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
< 9) || (pChoice == 3 && p2cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
< 9) || (pChoice == 3 && p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 10;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        p2cPosn -= 1;

                        //Determine if Player 2 has moved before their safe zone (P1-0 - P1-8)
                        if(p2cPosn == 8)
                        {
                            p2cPosn = 68;
                        }
                        else if(p2cPosn == 7)
                        {
                            p2cPosn = 67;
                        }
                        else if(p2cPosn == 6)
                        {
                            p2cPosn = 66;
                        }
                        else if(p2cPosn == 5)
                        {
                            p2cPosn = 65;
                        }
                        else if(p2cPosn == 4)
                        {
                            p2cPosn = 64;
                        }
                        else if(p2cPosn == 3)
                        {
                            p2cPosn = 63;
                        }
                        else if(p2cPosn == 2)
                        {
                            p2cPosn = 62;
                        }
                        else if(p2cPosn == 1)
                        {
                            p2cPosn = 61;
                        }
                        else if(p2cPosn == 0)
                        {
                            p2cPosn = 60;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 3:
                        break;
```

```
            }
        }

        //Player 2 draws an "11"
        else if(card == 9)
        {
            //Print the card's specific menu
            cout << "You drew an 11!" << endl;
            cout << "1. Move 11 spaces forward" << endl;
            cout << "2. Switch places with an opposing pawn" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
< 9) ||
                  (pChoice == 2 && p1cPosn < 9) || (pChoice == 3 && p2cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 3) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn < 9) ||
                    (pChoice == 2 && p1cPosn < 9) || (pChoice == 3 && p2cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p2cPosn += 11;
                    if(p2cPosn > 74)
                    {
                        p2cPosn = 74;
                    }
                    cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    if(p2cPosn >= 15 && p1cPosn >= 15)
                    {
                        temp = p2cPosn;
                        p2cPosn = p1cPosn - 15;
                        p1cPosn = temp + 15;
                    }
                    else if(p2cPosn >= 15 && p1cPosn <= 15)
                    {
                        temp = p2cPosn;
                        p2cPosn = 60 + p1cPosn - 15;
                        p1cPosn = 15 - (60 - temp);
                    }
                    else if(p2cPosn <= 15 && p1cPosn <= 15)
                    {
                        temp = p2cPosn;
                        p2cPosn = 60 + p1cPosn - 15;
                        p1cPosn = temp + 15;
                    }
                    else if(p2cPosn <= 15 && p1cPosn >= 15)
                    {
                        p2cPosn = p1cPosn - 15;
                        p1cPosn = p1cPosn - (p2cPosn - 10);
                    }

                    //Determine if Player 2 has moved before their safe zone (P1-0 - P1-8)
                    if(p2cPosn == 8)
                    {
                        p2cPosn = 68;
                    }
                    else if(p2cPosn == 7)
                    {
                        p2cPosn = 67;
```

```
}
else if(p2cPosn == 6)
{
    p2cPosn = 66;
}
else if(p2cPosn == 5)
{
    p2cPosn = 65;
}
else if(p2cPosn == 4)
{
    p2cPosn = 64;
}
else if(p2cPosn == 3)
{
    p2cPosn = 63;
}
else if(p2cPosn == 2)
{
    p2cPosn = 62;
}
else if(p2cPosn == 1)
{
    p2cPosn = 61;
}
else if(p2cPosn == 0)
{
    p2cPosn = 60;
}

//Determine if Player 1 has moved before their safe zone (P2-0 - P2-8)
if(p1cPosn == 8)
{
    p1cPosn = 68;
}
else if(p1cPosn == 7)
{
    p1cPosn = 67;
}
else if(p1cPosn == 6)
{
    p1cPosn = 66;
}
else if(p1cPosn == 5)
{
    p1cPosn = 65;
}
else if(p1cPosn == 4)
{
    p1cPosn = 64;
}
else if(p1cPosn == 3)
{
    p1cPosn = 63;
}
else if(p1cPosn == 2)
{
    p1cPosn = 62;
}
else if(p1cPosn == 1)
{
    p1cPosn = 61;
}
else if(p1cPosn == 0)
{
    p1cPosn = 60;
}
cout << pTwoPos[p2cPosn] << endl;
cout << endl;
cout << pTwoPos[p1cPosn] << endl;
break;
```

```
                    case 3:
                        break;
                }
            }

            //Player 2 draws a "12"
            else if(card == 10)
            {
                //Print the card's specific menu
                cout << "You drew a 12!" << endl;
                cout << "1. Move 12 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 12;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 2 draws a "Sorry!" card
            else
            {
                //Print the card's specific menu
                cout << "You drew a \"Sorry!\" Card!" << endl;
                cout << "1. Move an opponent's pawn off the game board!" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 &&
p1cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p1cPosn = 0;
                        cout << "\nPlayer 1 has been moved off the game board!" << endl;
                        cout << pTwoPos[0] << endl;
                        break;
```

```
                    case 2:
                        break;
                }
            }

            //Determine whether player 2 has won the game
            if(p2cPosn >= 74)
            {
                cout << "\nPlayer 2 has won the game!" << endl;
            }
        }

        //Reset the player's choice
        pChoice = 0;
        cin.clear();
        cin.ignore();

    //Exit or repeat the while loop
    }
}

/**
 * @brief Three Player Mode
 *
 * This function prompts for input three times; once for each human player
 * Introduces the ampersand character (&) and utilizes the player 3 game boards
 *
 * @return Void
 */
void trePlyr()
{
    //Seed the random number generator
    srand(time(0));

    //Declare variables
    unsigned short card = 0;                    //Card drawn (Random)
    unsigned short choice, pChoice = 0;         //Which option the user wants after they draw a
card
    unsigned short p1cPosn = 0;                 //Player 1's current position on the game board
    unsigned short p2cPosn = 0;                 //Player 2's current position on the game board
    unsigned short p3cPosn = 0;                 //Player 2's current position on the game board
    unsigned short temp = 0;                    //Hold a temporary value
    bool restart = false;                       //Exits the function if player 1 wins
    string pOnePos[TPOSTNS];                    //Array containing Player 1 game boards (*)
    string pTwoPos[TPOSTNS];                    //Array containing Player 2 game boards (#)
    string pTrePos[TPOSTNS];                    //Array containing Player 3 game boards (#)
    string p1Sstrg, p2Sstrg, p3Sstrg;           //Player 1 & 2 substrings
    size_t pos1 = 0, pos2;                      //Cursors for creating substrings
    stringstream buffer;                        //variable for the string stream buffer

    //Output Title
    cout << endl;
    cout << setw(27) << "3 player Mode" << endl;
    cout << endl;

    //Print players and their symbols
    cout << "Player 1 \t Player 2 \t Player 3" << endl;
    cout << "-------- \t -------- \t --------" << endl;
    cout << "    *    \t     #    \t     &    " << endl;

    //Load the text file for player 1
    ifstream in_p1("Player1_GameBoards.txt");
    buffer << in_p1.rdbuf();
    p1Sstrg = buffer.str();

    //Read the text file into the player 1 array
    for(int i = 0; i < TPOSTNS; i++)
    {
        pos2 = p1Sstrg.find(",", pos1);                     //Search for the "," (position 2 will
be where the comma was found)
        pOnePos[i] = p1Sstrg.substr(pos1, (pos2-pos1));     //Make the substring
```

```
        pos1 = pos2 + 1;
    }

    //Load the text file for player 2
    ifstream in_p2("Player2_GameBoards.txt");
    buffer << in_p2.rdbuf();
    p2Sstrg = buffer.str();

    //Read the text file into the player 2 array
    for(int c = 0; c < TPOSTNS; c++)
    {
        pos2 = p2Sstrg.find(",", pos1);                    //Search for the "," (position 2 will
be where the comma was found)
        pTwoPos[c] = p2Sstrg.substr(pos1, (pos2-pos1));    //Make the substring
        pos1 = pos2 + 1;
    }

    //Load the text file for player 3
    ifstream in_p3("Player3_GameBoards.txt");
    buffer << in_p3.rdbuf();
    p3Sstrg = buffer.str();

    //Read the text file into the player 3 array
    for(int j = 0; j < TPOSTNS; j++)
    {
        pos2 = p3Sstrg.find(",", pos1);                    //Search for the "," (position 2 will
be where the comma was found)
        pTrePos[j] = p3Sstrg.substr(pos1, (pos2-pos1));    //Make the substring
        pos1 = pos2 + 1;
    }

    //Begin the game
    //Loop until a player exceeds their native 74th position
    while(p1cPosn < 74 && p2cPosn < 74 && p3cPosn < 74)
    {
        cout << endl;
        cout << setw(25) << "PLAYER 1'S TURN:";
        cout << "\nPress the Enter key to draw a card! ";
        cin.get();

        //generate a random card
        card = (rand() % 11) + 1;
        cout << endl;

        //Determine the card value and apply the rules
        //Player 1 draws a "1"
        if(card == 1)
        {
            //Print the card's specific menu
            cout << "You drew a 1!" << endl;
            cout << "1. Start" << endl;
            cout << "2. Move 1 space forward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
```

```
                    p1cPosn = 10;
                    cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                    break;
                case 2:
                    p1cPosn += 1;
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 1 draws a "2"
        else if(card == 2)
        {
            //Print the card's specific menu
            cout << "You drew a 2!" << endl;
            cout << "1. Start" << endl;
            cout << "2. Move 2 spaces forward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 1 && p1cPosn >=
9) || (pChoice == 3))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 1 && p1cPosn >=
9) || (pChoice == 3));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn = 10;
                    cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                    break;
                case 2:
                    p1cPosn += 2;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 1 draws a "3"
        else if(card == 3)
        {
            //Print the card's specific menu
            cout << "You drew a 3!" << endl;
            cout << "1. Move 3 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
```

```
            pChoice = int_chk(choice);
        } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

        //Execute the desired action
        switch(pChoice)
        {
            case 1:
                p1cPosn += 3;
                if(p1cPosn > 74)
                {
                    p1cPosn = 74;
                }
                cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                break;
            case 2:
                break;
        }
    }

    //Player 1 draws a "4"
    else if(card == 4)
    {
        //Print the card's specific menu
        cout << "You drew a 4!" << endl;
        cout << "1. Move 4 spaces backward" << endl;
        cout << "2. Skip turn" << endl;

        //Check for legal move
        do
        {
            if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
            {
                cout << "That's an illegal move!";
            }
            cout << "\nWhich choice would you like to make? ";
            pChoice = int_chk(choice);
        } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

        //Execute the desired action
        switch(pChoice)
        {
            case 1:
                p1cPosn -= 4;

                //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                if(p1cPosn == 8)
                {
                    p1cPosn = 68;
                }
                else if(p1cPosn == 7)
                {
                    p1cPosn = 67;
                }
                else if(p1cPosn == 6)
                {
                    p1cPosn = 66;
                }
                else if(p1cPosn == 5)
                {
                    p1cPosn = 65;
                }
                else if(p1cPosn == 4)
                {
                    p1cPosn = 64;
                }
                else if(p1cPosn == 3)
                {
                    p1cPosn = 63;
```

```
                    }
                    else if(p1cPosn == 2)
                    {
                        p1cPosn = 62;
                    }
                    else if(p1cPosn == 1)
                    {
                        p1cPosn = 61;
                    }
                    else if(p1cPosn == 0)
                    {
                        p1cPosn = 60;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "5"
        else if(card == 5)
        {
            //Print the card's specific menu
            cout << "You drew a 5!" << endl;
            cout << "1. Move 5 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 5;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "7"
        else if(card == 6)
        {
            //Print the card's specific menu
            cout << "You drew a 7!" << endl;
            cout << "1. Move 7 spaces forward" << endl;
            cout << "2. Move Player Two 7 spaces backward" << endl;
            cout << "3. Move Player Three 7 spaces backward" << endl;
            cout << "4. Skip turn" << endl;

            //Check for legal move
            do
            {
```

```
            if((pChoice > 4) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p2cPosn <
9) ||
              (pChoice == 3 && p3cPosn < 9) || (pChoice == 4 && p1cPosn >= 9))
            {
                cout << "That's an illegal move!";
            }
            cout << "\nWhich choice would you like to make? ";
            pChoice = int_chk(choice);
        } while((pChoice > 4) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p2cPosn <
9) ||
               (pChoice == 3 && p3cPosn < 9) || (pChoice == 4 && p1cPosn >= 9));

        //Execute the desired action
        switch(pChoice)
        {
            case 1:
                p1cPosn += 7;
                if(p1cPosn > 74)
                {
                    p1cPosn = 74;
                }
                cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                break;
            case 2:
                p2cPosn -= 7;

                //Determine if Player 2 has moved before their safe zone (P1-0 - P1-8)
                if(p2cPosn == 8)
                {
                    p2cPosn = 68;
                }
                else if(p2cPosn == 7)
                {
                    p2cPosn = 67;
                }
                else if(p2cPosn == 6)
                {
                    p2cPosn = 66;
                }
                else if(p2cPosn == 5)
                {
                    p2cPosn = 65;
                }
                else if(p2cPosn == 4)
                {
                    p2cPosn = 64;
                }
                else if(p2cPosn == 3)
                {
                    p2cPosn = 63;
                }
                else if(p2cPosn == 2)
                {
                    p2cPosn = 62;
                }
                else if(p2cPosn == 1)
                {
                    p2cPosn = 61;
                }
                else if(p2cPosn == 0)
                {
                    p2cPosn = 60;
                }
                cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                break;
            case 3:
                p3cPosn -= 7;

                //Determine if Player 2 has moved before their safe zone (P1-0 - P1-8)
                if(p3cPosn == 8)
                {
```

```
                    p3cPosn = 68;
                }
                else if(p3cPosn == 7)
                {
                    p3cPosn = 67;
                }
                else if(p3cPosn == 6)
                {
                    p3cPosn = 66;
                }
                else if(p3cPosn == 5)
                {
                    p3cPosn = 65;
                }
                else if(p3cPosn == 4)
                {
                    p3cPosn = 64;
                }
                else if(p3cPosn == 3)
                {
                    p3cPosn = 63;
                }
                else if(p3cPosn == 2)
                {
                    p3cPosn = 62;
                }
                else if(p3cPosn == 1)
                {
                    p3cPosn = 61;
                }
                else if(p3cPosn == 0)
                {
                    p3cPosn = 60;
                }
                cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                break;
            case 4:
                break;
        }
    }

    //Player 1 draws an "8"
    else if(card == 7)
    {
        //Print the card's specific menu
        cout << "You drew an 8!" << endl;
        cout << "1. Move 8 spaces forward" << endl;
        cout << "2. Skip turn" << endl;

        //Check for legal move
        do
        {
            if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
            {
                cout << "That's an illegal move!";
            }
            cout << "\nWhich choice would you like to make? ";
            pChoice = int_chk(choice);
        } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

        //Execute the desired action
        switch(pChoice)
        {
            case 1:
                p1cPosn += 8;
                if(p1cPosn > 74)
                {
                    p1cPosn = 74;
                }
```

```
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "10"
        else if(card == 8)
        {
            //Print the card's specific menu
            cout << "You drew a 10!" << endl;
            cout << "1. Move 10 spaces forward" << endl;
            cout << "2. Move 1 space backward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3 && p1cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3 && p1cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 10;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    p1cPosn -= 1;

                    //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                    if(p1cPosn == 8)
                    {
                        p1cPosn = 68;
                    }
                    else if(p1cPosn == 7)
                    {
                        p1cPosn = 67;
                    }
                    else if(p1cPosn == 6)
                    {
                        p1cPosn = 66;
                    }
                    else if(p1cPosn == 5)
                    {
                        p1cPosn = 65;
                    }
                    else if(p1cPosn == 4)
                    {
                        p1cPosn = 64;
                    }
                    else if(p1cPosn == 3)
                    {
                        p1cPosn = 63;
                    }
                    else if(p1cPosn == 2)
                    {
                        p1cPosn = 62;
```

```
                    }
                    else if(p1cPosn == 1)
                    {
                        p1cPosn = 61;
                    }
                    else if(p1cPosn == 0)
                    {
                        p1cPosn = 60;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 1 draws an "11"
        else if(card == 9)
        {
            //Print the card's specific menu
            cout << "You drew an 11!" << endl;
            cout << "1. Move 11 spaces forward" << endl;
            cout << "2. Switch places with Player Two's pawn" << endl;
            cout << "3. Switch places with Player Three's pawn" << endl;
            cout << "4. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 4) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) ||
                  (pChoice == 2 && p2cPosn < 9) || (pChoice == 3 && p1cPosn < 9) || (pChoice == 3
&& p3cPosn < 9) ||
                  (pChoice == 4 && p1cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 4) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) ||
                    (pChoice == 2 && p2cPosn < 9) || (pChoice == 3 && p1cPosn < 9) || (pChoice ==
3 && p3cPosn < 9) ||
                    (pChoice == 4 && p1cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 11;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    if(p1cPosn >= 15 && p2cPosn >= 15)
                    {
                        temp = p1cPosn;
                        p1cPosn = p2cPosn - 15;
                        p2cPosn = temp + 15;
                    }
                    else if(p1cPosn >= 15 && p2cPosn <= 15)
                    {
                        temp = p1cPosn;
                        p1cPosn = 60 + p2cPosn - 15;
                        p2cPosn = 15 - (60 - temp);
                    }
                    else if(p1cPosn <= 15 && p2cPosn <= 15)
                    {
```

```
        temp = p1cPosn;
        p1cPosn = 60 + p2cPosn - 15;
        p2cPosn = temp + 15;
    }
    else if(p1cPosn <= 15 && p2cPosn >= 15)
    {
        p1cPosn = p2cPosn - 15;
        p2cPosn = p2cPosn - (p1cPosn - 10);
    }

    //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
    if(p1cPosn == 8)
    {
        p1cPosn = 68;
    }
    else if(p1cPosn == 7)
    {
        p1cPosn = 67;
    }
    else if(p1cPosn == 6)
    {
        p1cPosn = 66;
    }
    else if(p1cPosn == 5)
    {
        p1cPosn = 65;
    }
    else if(p1cPosn == 4)
    {
        p1cPosn = 64;
    }
    else if(p1cPosn == 3)
    {
        p1cPosn = 63;
    }
    else if(p1cPosn == 2)
    {
        p1cPosn = 62;
    }
    else if(p1cPosn == 1)
    {
        p1cPosn = 61;
    }
    else if(p1cPosn == 0)
    {
        p1cPosn = 60;
    }

    //Determine if Player 2 has moved before their safe zone (P2-0 - P2-8)
    if(p2cPosn == 8)
    {
        p2cPosn = 68;
    }
    else if(p2cPosn == 7)
    {
        p2cPosn = 67;
    }
    else if(p2cPosn == 6)
    {
        p2cPosn = 66;
    }
    else if(p2cPosn == 5)
    {
        p2cPosn = 65;
    }
    else if(p2cPosn == 4)
    {
        p2cPosn = 64;
    }
    else if(p2cPosn == 3)
    {
```

```
            p2cPosn = 63;
        }
        else if(p2cPosn == 2)
        {
            p2cPosn = 62;
        }
        else if(p2cPosn == 1)
        {
            p2cPosn = 61;
        }
        else if(p2cPosn == 0)
        {
            p2cPosn = 60;
        }
        cout << pOnePos[p1cPosn] << endl;
        cout << endl;
        cout << pTwoPos[p2cPosn] << endl;
        break;
    case 3:
        if(p1cPosn >= 15 && p3cPosn >= 15)
        {
            temp = p1cPosn;
            p1cPosn = p3cPosn - 15;
            p3cPosn = temp + 15;
        }
        else if(p1cPosn >= 15 && p3cPosn <= 15)
        {
            temp = p1cPosn;
            p1cPosn = 60 + p3cPosn - 15;
            p3cPosn = 15 - (60 - temp);
        }
        else if(p1cPosn <= 15 && p3cPosn <= 15)
        {
            temp = p1cPosn;
            p1cPosn = 60 + p3cPosn - 15;
            p3cPosn = temp + 15;
        }
        else if(p1cPosn <= 15 && p3cPosn >= 15)
        {
            p1cPosn = p3cPosn - 15;
            p3cPosn = p3cPosn - (p1cPosn - 10);
        }

        //Determine if Player 1 has moved before their safe zone
        if(p1cPosn == 8)
        {
            p1cPosn = 68;
        }
        else if(p1cPosn == 7)
        {
            p1cPosn = 67;
        }
        else if(p1cPosn == 6)
        {
            p1cPosn = 66;
        }
        else if(p1cPosn == 5)
        {
            p1cPosn = 65;
        }
        else if(p1cPosn == 4)
        {
            p1cPosn = 64;
        }
        else if(p1cPosn == 3)
        {
            p1cPosn = 63;
        }
        else if(p1cPosn == 2)
        {
            p1cPosn = 62;
```

```
                    }
                    else if(p1cPosn == 1)
                    {
                        p1cPosn = 61;
                    }
                    else if(p1cPosn == 0)
                    {
                        p1cPosn = 60;
                    }

                    //Determine if Player 3 has moved before their safe zone
                    if(p3cPosn == 8)
                    {
                        p3cPosn = 68;
                    }
                    else if(p3cPosn == 7)
                    {
                        p3cPosn = 67;
                    }
                    else if(p3cPosn == 6)
                    {
                        p3cPosn = 66;
                    }
                    else if(p3cPosn == 5)
                    {
                        p3cPosn = 65;
                    }
                    else if(p3cPosn == 4)
                    {
                        p3cPosn = 64;
                    }
                    else if(p3cPosn == 3)
                    {
                        p3cPosn = 63;
                    }
                    else if(p3cPosn == 2)
                    {
                        p3cPosn = 62;
                    }
                    else if(p3cPosn == 1)
                    {
                        p3cPosn = 61;
                    }
                    else if(p3cPosn == 0)
                    {
                        p3cPosn = 60;
                    }
                    cout << pOnePos[p1cPosn] << endl;
                    cout << endl;
                    cout << pTrePos[p3cPosn] << endl;
                    break;
                case 4:
                    break;
            }
        }

        //Player 1 draws a "12"
        else if(card == 10)
        {
            //Print the card's specific menu
            cout << "You drew a 12!" << endl;
            cout << "1. Move 12 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
```

```
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 12;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "Sorry!" card
        else
        {
            //Print the card's specific menu
            cout << "You drew a \"Sorry!\" Card!" << endl;
            cout << "1. Move Player Two's pawn off the game board" << endl;
            cout << "2. Move Player Three's pawn off the game board" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p3cPosn <
9) ||
                  (pChoice == 3 && p2cPosn >= 9) || (pChoice == 3 && p3cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 3) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p3cPosn <
9) ||
                    (pChoice == 3 && p2cPosn >= 9) || (pChoice == 3 && p3cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p2cPosn = 0;
                    cout << "\nPlayer 2 has been moved off the game board!" << endl;
                    cout << pTwoPos[0] << endl;
                    break;
                case 2:
                    p3cPosn = 0;
                    cout << "\nPlayer 3 has been moved off the game board!" << endl;
                    cout << pTrePos[0] << endl;
                    break;
                case 3:
                    break;
            }
        }

        //Determine whether Player 1 has won the game
        if(p1cPosn == 74)
        {
            cout << "\nPlayer 1 has won the game!" << endl;
            restart = true;
        }
```

```
        //Reset the player's choice
        pChoice = 0;

        //Begin Player 2's turn
        if(restart == false)
        {
            cout << endl;
            cout << setw(25) << "PLAYER 2'S TURN:";
            cout << "\nPress the Enter key to draw a card! ";
            cin.ignore();
            cin.get();

            //generate a random card
            card = (rand() % 11) + 1;
            cout << endl;

            //Determine the card value and apply the rules
            //Player 2 draws a "1"
            if(card == 1)
            {
                //Print the card's specific menu
                cout << "You drew a 1!" << endl;
                cout << "1. Start" << endl;
                cout << "2. Move 1 space forward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p2cPosn >= 9) || (pChoice == 2 &&
p2cPosn < 9) || (pChoice == 3))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p2cPosn >= 9) || (pChoice == 2 &&
p2cPosn < 9) || (pChoice == 3));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn = 10;
                        cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
                        break;
                    case 2:
                        p2cPosn += 1;
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 3:
                        break;
                }
            }

            //Player 2 draws a "2"
            else if(card == 2)
            {
                //Print the card's specific menu
                cout << "You drew a 2!" << endl;
                cout << "1. Start" << endl;
                cout << "2. Move 2 spaces forward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p2cPosn >= 9) || (pChoice == 1 &&
p2cPosn >= 9) || (pChoice == 3))
                    {
                        cout << "That's an illegal move!";
```

```
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p2cPosn >= 9) || (pChoice == 1 &&
p2cPosn >= 9) || (pChoice == 3));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn = 10;
                        cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
                        break;
                    case 2:
                        p2cPosn += 2;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
                        break;
                    case 3:
                        break;
                }
            }

            //Player 2 draws a "3"
            else if(card == 3)
            {
                //Print the card's specific menu
                cout << "You drew a 3!" << endl;
                cout << "1. Move 3 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 3;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 2 draws a "4"
            else if(card == 4)
            {
                //Print the card's specific menu
                cout << "You drew a 4!" << endl;
                cout << "1. Move 4 spaces backward" << endl;
                cout << "2. Skip turn" << endl;
```

```
                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn -= 4;

                        //Determine if Player 2 has moved before their safe zone (P1-0 - P1-8)
                        if(p2cPosn == 8)
                        {
                            p2cPosn = 68;
                        }
                        else if(p2cPosn == 7)
                        {
                            p2cPosn = 67;
                        }
                        else if(p2cPosn == 6)
                        {
                            p2cPosn = 66;
                        }
                        else if(p2cPosn == 5)
                        {
                            p2cPosn = 65;
                        }
                        else if(p2cPosn == 4)
                        {
                            p2cPosn = 64;
                        }
                        else if(p2cPosn == 3)
                        {
                            p2cPosn = 63;
                        }
                        else if(p2cPosn == 2)
                        {
                            p2cPosn = 62;
                        }
                        else if(p2cPosn == 1)
                        {
                            p2cPosn = 61;
                        }
                        else if(p2cPosn == 0)
                        {
                            p2cPosn = 60;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 2 draws a "5"
            else if(card == 5)
            {
                //Print the card's specific menu
                cout << "You drew a 5!" << endl;
                cout << "1. Move 5 spaces forward" << endl;
                cout << "2. Skip turn" << endl;
```

```
                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 5;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 2 draws a "7"
            else if(card == 6)
            {
                //Print the card's specific menu
                cout << "You drew a 7!" << endl;
                cout << "1. Move 7 spaces forward" << endl;
                cout << "2. Move Player One 7 spaces backward" << endl;
                cout << "3. Move Player Three 7 spaces backward" << endl;
                cout << "4. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 4) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p1cPosn
< 9) ||
                      (pChoice == 3 && p3cPosn < 9) || (pChoice == 4 && p2cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 4) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p1cPosn < 9) ||
                        (pChoice == 3 && p3cPosn < 9) || (pChoice == 4 && p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 7;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        p1cPosn -= 7;

                        //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                        if(p1cPosn == 8)
                        {
```

```
            p1cPosn = 68;
        }
        else if(p1cPosn == 7)
        {
            p1cPosn = 67;
        }
        else if(p1cPosn == 6)
        {
            p1cPosn = 66;
        }
        else if(p1cPosn == 5)
        {
            p1cPosn = 65;
        }
        else if(p1cPosn == 4)
        {
            p1cPosn = 64;
        }
        else if(p1cPosn == 3)
        {
            p1cPosn = 63;
        }
        else if(p1cPosn == 2)
        {
            p1cPosn = 62;
        }
        else if(p1cPosn == 1)
        {
            p1cPosn = 61;
        }
        else if(p1cPosn == 0)
        {
            p1cPosn = 60;
        }
        cout << pOnePos[p1cPosn] << endl;    //Output modified game board
        break;
    case 3:
        p3cPosn -= 7;

        //Determine if Player 3 has moved before their safe zone
        if(p3cPosn == 8)
        {
            p3cPosn = 68;
        }
        else if(p3cPosn == 7)
        {
            p3cPosn = 67;
        }
        else if(p3cPosn == 6)
        {
            p3cPosn = 66;
        }
        else if(p3cPosn == 5)
        {
            p3cPosn = 65;
        }
        else if(p3cPosn == 4)
        {
            p3cPosn = 64;
        }
        else if(p3cPosn == 3)
        {
            p3cPosn = 63;
        }
        else if(p3cPosn == 2)
        {
            p3cPosn = 62;
        }
        else if(p3cPosn == 1)
        {
            p3cPosn = 61;
```

```
                        }
                        else if(p3cPosn == 0)
                        {
                            p3cPosn = 60;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 4:
                        break;
                }
            }

            //Player 2 draws an "8"
            else if(card == 7)
            {
                //Print the card's specific menu
                cout << "You drew an 8!" << endl;
                cout << "1. Move 8 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 8;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 2 draws a "10"
            else if(card == 8)
            {
                //Print the card's specific menu
                cout << "You drew a 10!" << endl;
                cout << "1. Move 10 spaces forward" << endl;
                cout << "2. Move 1 space backward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
< 9) || (pChoice == 3 && p2cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
< 9) || (pChoice == 3 && p2cPosn >= 9));
```

```
    //Execute the desired action
    switch(pChoice)
    {
        case 1:
            p2cPosn += 10;
            if(p2cPosn > 74)
            {
                p2cPosn = 74;
            }
            cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
            break;
        case 2:
            p2cPosn -= 1;

            //Determine if Player 2 has moved before their safe zone (P1-0 - P1-8)
            if(p2cPosn == 8)
            {
                p2cPosn = 68;
            }
            else if(p2cPosn == 7)
            {
                p2cPosn = 67;
            }
            else if(p2cPosn == 6)
            {
                p2cPosn = 66;
            }
            else if(p2cPosn == 5)
            {
                p2cPosn = 65;
            }
            else if(p2cPosn == 4)
            {
                p2cPosn = 64;
            }
            else if(p2cPosn == 3)
            {
                p2cPosn = 63;
            }
            else if(p2cPosn == 2)
            {
                p2cPosn = 62;
            }
            else if(p2cPosn == 1)
            {
                p2cPosn = 61;
            }
            else if(p2cPosn == 0)
            {
                p2cPosn = 60;
            }
            cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
            break;
        case 3:
            break;
    }
}

//Player 2 draws an "11"
else if(card == 9)
{
    //Print the card's specific menu
    cout << "You drew an 11!" << endl;
    cout << "1. Move 11 spaces forward" << endl;
    cout << "2. Switch places with Player One's pawn" << endl;
    cout << "3. Switch places with Player Three's pawn" << endl;
    cout << "4. Skip turn" << endl;

    //Check for legal move
    do
    {
```

```
                    if((pChoice > 4) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
< 9) ||
                      (pChoice == 2 && p1cPosn < 9) || (pChoice == 3 && p2cPosn < 9) || (pChoice
== 3 && p3cPosn < 9) ||
                      (pChoice == 4 && p1cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 4) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn < 9) ||
                       (pChoice == 2 && p1cPosn < 9) || (pChoice == 3 && p2cPosn < 9) || (pChoice
== 3 && p3cPosn < 9) ||
                       (pChoice == 4 && p1cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 11;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        if(p2cPosn >= 15 && p1cPosn >= 15)
                        {
                            temp = p2cPosn;
                            p2cPosn = p1cPosn - 15;
                            p1cPosn = temp + 15;
                        }
                        else if(p2cPosn >= 15 && p1cPosn <= 15)
                        {
                            temp = p2cPosn;
                            p2cPosn = 60 + p1cPosn - 15;
                            p1cPosn = 15 - (60 - temp);
                        }
                        else if(p2cPosn <= 15 && p1cPosn <= 15)
                        {
                            temp = p2cPosn;
                            p2cPosn = 60 + p1cPosn - 15;
                            p1cPosn = temp + 15;
                        }
                        else if(p2cPosn <= 15 && p1cPosn >= 15)
                        {
                            p2cPosn = p1cPosn - 15;
                            p1cPosn = p1cPosn - (p2cPosn - 10);
                        }

                        //Determine if Player 2 has moved before their safe zone
                        if(p2cPosn == 8)
                        {
                            p2cPosn = 68;
                        }
                        else if(p2cPosn == 7)
                        {
                            p2cPosn = 67;
                        }
                        else if(p2cPosn == 6)
                        {
                            p2cPosn = 66;
                        }
                        else if(p2cPosn == 5)
                        {
                            p2cPosn = 65;
                        }
                        else if(p2cPosn == 4)
                        {
```

```
            p2cPosn = 64;
        }
        else if(p2cPosn == 3)
        {
            p2cPosn = 63;
        }
        else if(p2cPosn == 2)
        {
            p2cPosn = 62;
        }
        else if(p2cPosn == 1)
        {
            p2cPosn = 61;
        }
        else if(p2cPosn == 0)
        {
            p2cPosn = 60;
        }

        //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
        if(p1cPosn == 8)
        {
            p1cPosn = 68;
        }
        else if(p1cPosn == 7)
        {
            p1cPosn = 67;
        }
        else if(p1cPosn == 6)
        {
            p1cPosn = 66;
        }
        else if(p1cPosn == 5)
        {
            p1cPosn = 65;
        }
        else if(p1cPosn == 4)
        {
            p1cPosn = 64;
        }
        else if(p1cPosn == 3)
        {
            p1cPosn = 63;
        }
        else if(p1cPosn == 2)
        {
            p1cPosn = 62;
        }
        else if(p1cPosn == 1)
        {
            p1cPosn = 61;
        }
        else if(p1cPosn == 0)
        {
            p1cPosn = 60;
        }
        cout << pTwoPos[p2cPosn] << endl;
        cout << endl;
        cout << pOnePos[p1cPosn] << endl;
        break;
    case 3:
        if(p2cPosn >= 15 && p3cPosn >= 15)
        {
            temp = p2cPosn;
            p2cPosn = p3cPosn - 15;
            p3cPosn = temp + 15;
        }
        else if(p2cPosn >= 15 && p3cPosn <= 15)
        {
            temp = p2cPosn;
            p2cPosn = 60 + p3cPosn - 15;
```

```
    p3cPosn = 15 - (60 - temp);
}
else if(p2cPosn <= 15 && p3cPosn <= 15)
{
    temp = p2cPosn;
    p2cPosn = 60 + p3cPosn - 15;
    p3cPosn = temp + 15;
}
else if(p2cPosn <= 15 && p3cPosn >= 15)
{
    p2cPosn = p3cPosn - 15;
    p3cPosn = p3cPosn - (p2cPosn - 10);
}

//Determine if Player 2 has moved before their safe zone
if(p2cPosn == 8)
{
    p2cPosn = 68;
}
else if(p2cPosn == 7)
{
    p2cPosn = 67;
}
else if(p2cPosn == 6)
{
    p2cPosn = 66;
}
else if(p2cPosn == 5)
{
    p2cPosn = 65;
}
else if(p2cPosn == 4)
{
    p2cPosn = 64;
}
else if(p2cPosn == 3)
{
    p2cPosn = 63;
}
else if(p2cPosn == 2)
{
    p2cPosn = 62;
}
else if(p2cPosn == 1)
{
    p2cPosn = 61;
}
else if(p2cPosn == 0)
{
    p2cPosn = 60;
}

//Determine if Player 3 has moved before their safe zone
if(p3cPosn == 8)
{
    p3cPosn = 68;
}
else if(p3cPosn == 7)
{
    p3cPosn = 67;
}
else if(p3cPosn == 6)
{
    p3cPosn = 66;
}
else if(p3cPosn == 5)
{
    p3cPosn = 65;
}
else if(p3cPosn == 4)
{
```

```
                        p3cPosn = 64;
                    }
                    else if(p3cPosn == 3)
                    {
                        p3cPosn = 63;
                    }
                    else if(p3cPosn == 2)
                    {
                        p3cPosn = 62;
                    }
                    else if(p3cPosn == 1)
                    {
                        p3cPosn = 61;
                    }
                    else if(p3cPosn == 0)
                    {
                        p3cPosn = 60;
                    }
                    cout << pTwoPos[p2cPosn] << endl;
                    cout << endl;
                    cout << pTrePos[p3cPosn] << endl;
                    break;
                case 4:
                    break;
            }
        }

        //Player 2 draws a "12"
        else if(card == 10)
        {
            //Print the card's specific menu
            cout << "You drew a 12!" << endl;
            cout << "1. Move 12 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p2cPosn += 12;
                    if(p2cPosn > 74)
                    {
                        p2cPosn = 74;
                    }
                    cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 2 draws a "Sorry!" card
        else
        {
            //Print the card's specific menu
            cout << "You drew a \"Sorry!\" Card!" << endl;
            cout << "1. Move Player One's pawn off the game board" << endl;
            cout << "2. Move Player Three's pawn off the game board" << endl;
```

```
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p3cPosn
< 9) ||
                      (pChoice == 3 && p1cPosn >= 9) || (pChoice == 3 && p3cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 &&
p3cPosn < 9) ||
                        (pChoice == 3 && p1cPosn >= 9) || (pChoice == 3 && p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p1cPosn = 0;
                        cout << "\nPlayer 1 has been moved off the game board!" << endl;
                        cout << pOnePos[0] << endl;
                        break;
                    case 2:
                        p3cPosn = 0;
                        cout << "\nPlayer 3 has been moved off the game board!" << endl;
                        cout << pTrePos[0] << endl;
                        break;
                    case 3:
                        break;
                }
            }

            //Determine whether player 2 has won the game
            if(p2cPosn >= 74)
            {
                cout << "\nPlayer 2 has won the game!" << endl;
                restart = true;
            }
        }

        //Reset the player's choice
        pChoice = 0;

        //Begin Player 3's turn
        if(restart == false)
        {
            cout << endl;
            cout << setw(25) << "PLAYER 3'S TURN:";
            cout << "\nPress the Enter key to draw a card! ";
            cin.ignore();
            cin.get();

            //generate a random card
            card = (rand() % 11) + 1;
            cout << endl;

            //Determine the card value and apply the rules
            //Player 3 draws a "1"
            if(card == 1)
            {
                //Print the card's specific menu
                cout << "You drew a 1!" << endl;
                cout << "1. Start" << endl;
                cout << "2. Move 1 space forward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
```

```
                {
                    if((pChoice > 3) || (pChoice == 1 && p3cPosn >= 9) || (pChoice == 2 &&
p3cPosn < 9) || (pChoice == 3))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p3cPosn >= 9) || (pChoice == 2 &&
p3cPosn < 9) || (pChoice == 3));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn = 10;
                        cout << pTrePos[p3cPosn] << endl;   //Output modified game board
                        break;
                    case 2:
                        p3cPosn += 1;
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 3:
                        break;
                }
            }

            //Player 3 draws a "2"
            else if(card == 2)
            {
                //Print the card's specific menu
                cout << "You drew a 2!" << endl;
                cout << "1. Start" << endl;
                cout << "2. Move 2 spaces forward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p3cPosn >= 9) || (pChoice == 1 &&
p3cPosn >= 9) || (pChoice == 3))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p3cPosn >= 9) || (pChoice == 1 &&
p3cPosn >= 9) || (pChoice == 3));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn = 10;
                        cout << pTrePos[p3cPosn] << endl;   //Output modified game board
                        break;
                    case 2:
                        p3cPosn += 2;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;   //Output modified game board
                        break;
                    case 3:
                        break;
                }
            }

            //Player 3 draws a "3"
            else if(card == 3)
```

```
            {
                //Print the card's specific menu
                cout << "You drew a 3!" << endl;
                cout << "1. Move 3 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn += 3;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 3 draws a "4"
            else if(card == 4)
            {
                //Print the card's specific menu
                cout << "You drew a 4!" << endl;
                cout << "1. Move 4 spaces backward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn -= 4;

                        //Determine if Player 2 has moved before their safe zone
                        if(p3cPosn == 8)
                        {
                            p3cPosn = 68;
                        }
                        else if(p3cPosn == 7)
                        {
                            p3cPosn = 67;
                        }
```

```
                    else if(p3cPosn == 6)
                    {
                        p3cPosn = 66;
                    }
                    else if(p3cPosn == 5)
                    {
                        p3cPosn = 65;
                    }
                    else if(p3cPosn == 4)
                    {
                        p3cPosn = 64;
                    }
                    else if(p3cPosn == 3)
                    {
                        p3cPosn = 63;
                    }
                    else if(p3cPosn == 2)
                    {
                        p3cPosn = 62;
                    }
                    else if(p3cPosn == 1)
                    {
                        p3cPosn = 61;
                    }
                    else if(p3cPosn == 0)
                    {
                        p3cPosn = 60;
                    }
                    cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 3 draws a "5"
        else if(card == 5)
        {
            //Print the card's specific menu
            cout << "You drew a 5!" << endl;
            cout << "1. Move 5 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
>= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p3cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p3cPosn += 5;
                    if(p3cPosn > 74)
                    {
                        p3cPosn = 74;
                    }
                    cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }
```

```
            //Player 3 draws a "7"
            else if(card == 6)
            {
                //Print the card's specific menu
                cout << "You drew a 7!" << endl;
                cout << "1. Move 7 spaces forward" << endl;
                cout << "2. Move Player One 7 spaces backward" << endl;
                cout << "3. Move Player Two 7 spaces backward" << endl;
                cout << "4. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 4) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p1cPosn
< 9) ||
                      (pChoice == 3 && p2cPosn < 9) || (pChoice == 4 && p3cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 4) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p1cPosn < 9) ||
                        (pChoice == 3 && p2cPosn < 9) || (pChoice == 4 && p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn += 7;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        p1cPosn -= 7;

                        //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                        if(p1cPosn == 8)
                        {
                            p1cPosn = 68;
                        }
                        else if(p1cPosn == 7)
                        {
                            p1cPosn = 67;
                        }
                        else if(p1cPosn == 6)
                        {
                            p1cPosn = 66;
                        }
                        else if(p1cPosn == 5)
                        {
                            p1cPosn = 65;
                        }
                        else if(p1cPosn == 4)
                        {
                            p1cPosn = 64;
                        }
                        else if(p1cPosn == 3)
                        {
                            p1cPosn = 63;
                        }
                        else if(p1cPosn == 2)
                        {
                            p1cPosn = 62;
                        }
                        else if(p1cPosn == 1)
                        {
```

```
                        p1cPosn = 61;
                    }
                    else if(p1cPosn == 0)
                    {
                        p1cPosn = 60;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 3:
                    p2cPosn -= 7;

                    //Determine if Player 3 has moved before their safe zone
                    if(p2cPosn == 8)
                    {
                        p2cPosn = 68;
                    }
                    else if(p2cPosn == 7)
                    {
                        p2cPosn = 67;
                    }
                    else if(p2cPosn == 6)
                    {
                        p2cPosn = 66;
                    }
                    else if(p2cPosn == 5)
                    {
                        p2cPosn = 65;
                    }
                    else if(p2cPosn == 4)
                    {
                        p2cPosn = 64;
                    }
                    else if(p2cPosn == 3)
                    {
                        p2cPosn = 63;
                    }
                    else if(p2cPosn == 2)
                    {
                        p2cPosn = 62;
                    }
                    else if(p2cPosn == 1)
                    {
                        p2cPosn = 61;
                    }
                    else if(p2cPosn == 0)
                    {
                        p2cPosn = 60;
                    }
                    cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                    break;
                case 4:
                    break;
            }
        }

        //Player 3 draws an "8"
        else if(card == 7)
        {
            //Print the card's specific menu
            cout << "You drew an 8!" << endl;
            cout << "1. Move 8 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
>= 9))
                {
                    cout << "That's an illegal move!";
                }
```

```
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn += 8;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 3 draws a "10"
            else if(card == 8)
            {
                //Print the card's specific menu
                cout << "You drew a 10!" << endl;
                cout << "1. Move 10 spaces forward" << endl;
                cout << "2. Move 1 space backward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
< 9) || (pChoice == 3 && p3cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
< 9) || (pChoice == 3 && p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn += 10;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        p3cPosn -= 1;

                        //Determine if Player 2 has moved before their safe zone (P1-0 - P1-8)
                        if(p3cPosn == 8)
                        {
                            p3cPosn = 68;
                        }
                        else if(p3cPosn == 7)
                        {
                            p3cPosn = 67;
                        }
                        else if(p3cPosn == 6)
                        {
                            p3cPosn = 66;
                        }
                        else if(p3cPosn == 5)
```

```
                    {
                        p3cPosn = 65;
                    }
                    else if(p3cPosn == 4)
                    {
                        p3cPosn = 64;
                    }
                    else if(p3cPosn == 3)
                    {
                        p3cPosn = 63;
                    }
                    else if(p3cPosn == 2)
                    {
                        p3cPosn = 62;
                    }
                    else if(p3cPosn == 1)
                    {
                        p3cPosn = 61;
                    }
                    else if(p3cPosn == 0)
                    {
                        p3cPosn = 60;
                    }
                    cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 3 draws an "11"
        else if(card == 9)
        {
            //Print the card's specific menu
            cout << "You drew an 11!" << endl;
            cout << "1. Move 11 spaces forward" << endl;
            cout << "2. Switch places with Player One's pawn" << endl;
            cout << "3. Switch places with Player Two's pawn" << endl;
            cout << "4. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 4) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
< 9) ||
                  (pChoice == 2 && p1cPosn < 9) || (pChoice == 3 && p2cPosn < 9) || (pChoice
== 3 && p2cPosn < 9) ||
                   (pChoice == 4 && p1cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 4) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p3cPosn < 9) ||
                    (pChoice == 2 && p1cPosn < 9) || (pChoice == 3 && p2cPosn < 9) || (pChoice
== 3 && p2cPosn < 9) ||
                    (pChoice == 4 && p1cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p3cPosn += 11;
                    if(p3cPosn > 74)
                    {
                        p3cPosn = 74;
                    }
                    cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                    break;
                case 2:
```

```
if(p3cPosn >= 15 && p1cPosn >= 15)
{
    temp = p3cPosn;
    p3cPosn = p1cPosn - 15;
    p1cPosn = temp + 15;
}
else if(p3cPosn >= 15 && p1cPosn <= 15)
{
    temp = p3cPosn;
    p3cPosn = 60 + p1cPosn - 15;
    p1cPosn = 15 - (60 - temp);
}
else if(p3cPosn <= 15 && p1cPosn <= 15)
{
    temp = p3cPosn;
    p3cPosn = 60 + p1cPosn - 15;
    p1cPosn = temp + 15;
}
else if(p3cPosn <= 15 && p1cPosn >= 15)
{
    p3cPosn = p1cPosn - 15;
    p1cPosn = p1cPosn - (p3cPosn - 10);
}

//Determine if Player 3 has moved before their safe zone
if(p3cPosn == 8)
{
    p3cPosn = 68;
}
else if(p3cPosn == 7)
{
    p3cPosn = 67;
}
else if(p3cPosn == 6)
{
    p3cPosn = 66;
}
else if(p3cPosn == 5)
{
    p3cPosn = 65;
}
else if(p3cPosn == 4)
{
    p3cPosn = 64;
}
else if(p3cPosn == 3)
{
    p3cPosn = 63;
}
else if(p3cPosn == 2)
{
    p3cPosn = 62;
}
else if(p3cPosn == 1)
{
    p3cPosn = 61;
}
else if(p3cPosn == 0)
{
    p3cPosn = 60;
}

//Determine if Player 1 has moved before their safe zone
if(p1cPosn == 8)
{
    p1cPosn = 68;
}
else if(p1cPosn == 7)
{
    p1cPosn = 67;
}
```

```
        else if(p1cPosn == 6)
        {
            p1cPosn = 66;
        }
        else if(p1cPosn == 5)
        {
            p1cPosn = 65;
        }
        else if(p1cPosn == 4)
        {
            p1cPosn = 64;
        }
        else if(p1cPosn == 3)
        {
            p1cPosn = 63;
        }
        else if(p1cPosn == 2)
        {
            p1cPosn = 62;
        }
        else if(p1cPosn == 1)
        {
            p1cPosn = 61;
        }
        else if(p1cPosn == 0)
        {
            p1cPosn = 60;
        }
        cout << pTrePos[p3cPosn] << endl;
        cout << endl;
        cout << pOnePos[p1cPosn] << endl;
        break;
    case 3:
        if(p3cPosn >= 15 && p2cPosn >= 15)
        {
            temp = p3cPosn;
            p3cPosn = p2cPosn - 15;
            p2cPosn = temp + 15;
        }
        else if(p3cPosn >= 15 && p2cPosn <= 15)
        {
            temp = p3cPosn;
            p3cPosn = 60 + p2cPosn - 15;
            p2cPosn = 15 - (60 - temp);
        }
        else if(p3cPosn <= 15 && p2cPosn <= 15)
        {
            temp = p3cPosn;
            p3cPosn = 60 + p2cPosn - 15;
            p2cPosn = temp + 15;
        }
        else if(p3cPosn <= 15 && p2cPosn >= 15)
        {
            p3cPosn = p2cPosn - 15;
            p2cPosn = p2cPosn - (p3cPosn - 10);
        }

        //Determine if Player 3 has moved before their safe zone
        if(p3cPosn == 8)
        {
            p3cPosn = 68;
        }
        else if(p3cPosn == 7)
        {
            p3cPosn = 67;
        }
        else if(p3cPosn == 6)
        {
            p3cPosn = 66;
        }
        else if(p3cPosn == 5)
```

```
                {
                    p3cPosn = 65;
                }
                else if(p3cPosn == 4)
                {
                    p3cPosn = 64;
                }
                else if(p3cPosn == 3)
                {
                    p3cPosn = 63;
                }
                else if(p3cPosn == 2)
                {
                    p3cPosn = 62;
                }
                else if(p3cPosn == 1)
                {
                    p3cPosn = 61;
                }
                else if(p3cPosn == 0)
                {
                    p3cPosn = 60;
                }

                //Determine if Player 2 has moved before their safe zone
                if(p2cPosn == 8)
                {
                    p2cPosn = 68;
                }
                else if(p2cPosn == 7)
                {
                    p2cPosn = 67;
                }
                else if(p2cPosn == 6)
                {
                    p2cPosn = 66;
                }
                else if(p2cPosn == 5)
                {
                    p2cPosn = 65;
                }
                else if(p2cPosn == 4)
                {
                    p2cPosn = 64;
                }
                else if(p2cPosn == 3)
                {
                    p2cPosn = 63;
                }
                else if(p2cPosn == 2)
                {
                    p2cPosn = 62;
                }
                else if(p2cPosn == 1)
                {
                    p2cPosn = 61;
                }
                else if(p2cPosn == 0)
                {
                    p2cPosn = 60;
                }
                cout << pTrePos[p3cPosn] << endl;
                cout << endl;
                cout << pTwoPos[p2cPosn] << endl;
                break;
            case 4:
                break;
        }
    }

    //Player 3 draws a "12"
```

```
            else if(card == 10)
            {
                //Print the card's specific menu
                cout << "You drew a 12!" << endl;
                cout << "1. Move 12 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn += 12;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 3 draws a "Sorry!" card
            else
            {
                //Print the card's specific menu
                cout << "You drew a \"Sorry!\" Card!" << endl;
                cout << "1. Move Player One's pawn off the game board" << endl;
                cout << "2. Move Player Two's pawn off the game board" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p2cPosn
< 9) ||
                      (pChoice == 3 && p1cPosn >= 9) || (pChoice == 3 && p2cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 &&
p2cPosn < 9) ||
                         (pChoice == 3 && p1cPosn >= 9) || (pChoice == 3 && p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p1cPosn = 0;
                        cout << "\nPlayer 1 has been moved off the game board!" << endl;
                        cout << pOnePos[0] << endl;
                        break;
                    case 2:
                        p3cPosn = 0;
                        cout << "\nPlayer 2 has been moved off the game board!" << endl;
```

```
                        cout << pTwoPos[0] << endl;
                        break;
                    case 3:
                        break;
                }
            }

            //Determine whether player 3 has won the game
            if(p3cPosn >= 74)
            {
                cout << "\nPlayer 3 has won the game!" << endl;
                restart = true;
            }
        }

        //Reset the player's choice
        pChoice = 0;
        cin.clear();
        cin.ignore();

    //Exit or repeat the while loop
    }
}

/**
 * @brief Four Player Mode
 *
 * This function prompts for input four times; once for each human player
 * Introduces the ampersat character (@) and utilizes the player 4 game boards.
 *
 * @return Void
 */
void forPlyr()
{
    //Seed the random number generator
    srand(time(0));

    //Declare variables
    unsigned short card = 0;                    //Card drawn (Random)
    unsigned short choice, pChoice = 0;         //Which option the user wants after they draw a
card
    unsigned short p1cPosn = 0;                 //Player 1's current position on the game board
    unsigned short p2cPosn = 0;                 //Player 2's current position on the game board
    unsigned short p3cPosn = 0;                 //Player 3's current position on the game board
    unsigned short p4cPosn = 0;                 //Player 4's current position on the game board
    unsigned short temp = 0;                    //Hold a temporary value
    bool restart = false;                       //Exits the function if player 1 wins
    string pOnePos[TPOSTNS];                    //Array containing Player 1 game boards (*)
    string pTwoPos[TPOSTNS];                    //Array containing Player 2 game boards (#)
    string pTrePos[TPOSTNS];                    //Array containing Player 3 game boards (&)
    string pForPos[TPOSTNS];                    //Array containing Player 4 game boards (@)
    string p1Sstrg, p2Sstrg, p3Sstrg, p4Sstrg;  //Player 1 & 2 substrings
    size_t pos1 = 0, pos2;                      //Cursors for creating substrings
    stringstream buffer;                        //variable for the string stream buffer

    //Output Title
    cout << endl;
    cout << setw(36) << "4 player Mode" << endl;
    cout << endl;

    //Print players and their symbols
    cout << "Player 1 \t Player 2 \t Player 3 \t Player 4" << endl;
    cout << "-------- \t -------- \t -------- \t --------" << endl;
    cout << "    *    \t     #    \t     &    \t     @    " << endl;

    //Load the text file for player 1
    ifstream in_p1("Player1_GameBoards.txt");
    buffer << in_p1.rdbuf();
    p1Sstrg = buffer.str();

    //Read the text file into the player 1 array
```

```
    for(int i = 0; i < TPOSTNS; i++)
    {
        pos2 = p1Sstrg.find(",", pos1);                    //Search for the "," (position 2 will
be where the comma was found)
        pOnePos[i] = p1Sstrg.substr(pos1, (pos2-pos1));    //Make the substring
        pos1 = pos2 + 1;
    }

    //Load the text file for player 2
    ifstream in_p2("Player2_GameBoards.txt");
    buffer << in_p2.rdbuf();
    p2Sstrg = buffer.str();

    //Read the text file into the player 2 array
    for(int c = 0; c < TPOSTNS; c++)
    {
        pos2 = p2Sstrg.find(",", pos1);                     //Search for the "," (position 2 will
be where the comma was found)
        pTwoPos[c] = p2Sstrg.substr(pos1, (pos2-pos1));     //Make the substring
        pos1 = pos2 + 1;
    }

    //Load the text file for player 3
    ifstream in_p3("Player3_GameBoards.txt");
    buffer << in_p3.rdbuf();
    p3Sstrg = buffer.str();

    //Read the text file into the player 3 array
    for(int j = 0; j < TPOSTNS; j++)
    {
        pos2 = p3Sstrg.find(",", pos1);                     //Search for the "," (position 2 will
be where the comma was found)
        pTrePos[j] = p3Sstrg.substr(pos1, (pos2-pos1));     //Make the substring
        pos1 = pos2 + 1;
    }

    //Load the text file for player 4
    ifstream in_p4("Player4_GameBoards.txt");
    buffer << in_p4.rdbuf();
    p4Sstrg = buffer.str();

    //Read the text file into the player 4 array
    for(int r = 0; r < TPOSTNS; r++)
    {
        pos2 = p4Sstrg.find(",", pos1);                     //Search for the "," (position 2 will
be where the comma was found)
        pForPos[r] = p4Sstrg.substr(pos1, (pos2-pos1));     //Make the substring
        pos1 = pos2 + 1;
    }

    //Begin the game
    //Loop until a player exceeds their native 74th position
    while(p1cPosn < 74 && p2cPosn < 74 && p3cPosn < 74 && p4cPosn < 74)
    {
        cout << endl;
        cout << setw(25) << "PLAYER 1'S TURN:";
        cout << "\nPress the Enter key to draw a card! ";
        cin.get();

        //generate a random card
        card = (rand() % 11) + 1;
        cout << endl;

        //Determine the card value and apply the rules
        //Player 1 draws a "1"
        if(card == 1)
        {
            //Print the card's specific menu
            cout << "You drew a 1!" << endl;
            cout << "1. Start" << endl;
            cout << "2. Move 1 space forward" << endl;
```

```
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn = 10;
                    cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                    break;
                case 2:
                    p1cPosn += 1;
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 1 draws a "2"
        else if(card == 2)
        {
            //Print the card's specific menu
            cout << "You drew a 2!" << endl;
            cout << "1. Start" << endl;
            cout << "2. Move 2 spaces forward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 1 && p1cPosn >=
9) || (pChoice == 3))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p1cPosn >= 9) || (pChoice == 1 && p1cPosn >=
9) || (pChoice == 3));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn = 10;
                    cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                    break;
                case 2:
                    p1cPosn += 2;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;   //Output modified game board
                    break;
                case 3:
                    break;
            }
```

```
        }

        //Player 1 draws a "3"
        else if(card == 3)
        {
            //Print the card's specific menu
            cout << "You drew a 3!" << endl;
            cout << "1. Move 3 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 3;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "4"
        else if(card == 4)
        {
            //Print the card's specific menu
            cout << "You drew a 4!" << endl;
            cout << "1. Move 4 spaces backward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn -= 4;

                    //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                    if(p1cPosn == 8)
                    {
                        p1cPosn = 68;
                    }
```

```
                    else if(p1cPosn == 7)
                    {
                        p1cPosn = 67;
                    }
                    else if(p1cPosn == 6)
                    {
                        p1cPosn = 66;
                    }
                    else if(p1cPosn == 5)
                    {
                        p1cPosn = 65;
                    }
                    else if(p1cPosn == 4)
                    {
                        p1cPosn = 64;
                    }
                    else if(p1cPosn == 3)
                    {
                        p1cPosn = 63;
                    }
                    else if(p1cPosn == 2)
                    {
                        p1cPosn = 62;
                    }
                    else if(p1cPosn == 1)
                    {
                        p1cPosn = 61;
                    }
                    else if(p1cPosn == 0)
                    {
                        p1cPosn = 60;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "5"
        else if(card == 5)
        {
            //Print the card's specific menu
            cout << "You drew a 5!" << endl;
            cout << "1. Move 5 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 5;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
```

```
                case 2:
                    break;
            }
        }

        //Player 1 draws a "7"
        else if(card == 6)
        {
            //Print the card's specific menu
            cout << "You drew a 7!" << endl;
            cout << "1. Move 7 spaces forward" << endl;
            cout << "2. Move Player Two 7 spaces backward" << endl;
            cout << "3. Move Player Three 7 spaces backward" << endl;
            cout << "4. Move Player Four 7 spaces backward" << endl;
            cout << "5. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 5) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p2cPosn <
9) ||
                  (pChoice == 3 && p3cPosn < 9) || (pChoice == 4 && p4cPosn < 9) || (pChoice == 5
&& p1cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 5) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p2cPosn <
9) ||
                    (pChoice == 3 && p3cPosn < 9) || (pChoice == 4 && p4cPosn < 9) || (pChoice ==
5 && p1cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 7;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    p2cPosn -= 7;

                    //Determine if Player 2 has moved before their safe zone
                    if(p2cPosn == 8)
                    {
                        p2cPosn = 68;
                    }
                    else if(p2cPosn == 7)
                    {
                        p2cPosn = 67;
                    }
                    else if(p2cPosn == 6)
                    {
                        p2cPosn = 66;
                    }
                    else if(p2cPosn == 5)
                    {
                        p2cPosn = 65;
                    }
                    else if(p2cPosn == 4)
                    {
                        p2cPosn = 64;
                    }
                    else if(p2cPosn == 3)
                    {
                        p2cPosn = 63;
```

```
        }
        else if(p2cPosn == 2)
        {
            p2cPosn = 62;
        }
        else if(p2cPosn == 1)
        {
            p2cPosn = 61;
        }
        else if(p2cPosn == 0)
        {
            p2cPosn = 60;
        }
        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
        break;
    case 3:
        p3cPosn -= 7;

        //Determine if Player 3 has moved before their safe zone
        if(p3cPosn == 8)
        {
            p3cPosn = 68;
        }
        else if(p3cPosn == 7)
        {
            p3cPosn = 67;
        }
        else if(p3cPosn == 6)
        {
            p3cPosn = 66;
        }
        else if(p3cPosn == 5)
        {
            p3cPosn = 65;
        }
        else if(p3cPosn == 4)
        {
            p3cPosn = 64;
        }
        else if(p3cPosn == 3)
        {
            p3cPosn = 63;
        }
        else if(p3cPosn == 2)
        {
            p3cPosn = 62;
        }
        else if(p3cPosn == 1)
        {
            p3cPosn = 61;
        }
        else if(p3cPosn == 0)
        {
            p3cPosn = 60;
        }
        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
        break;
    case 4:
        p4cPosn -= 7;

        //Determine if Player 4 has moved before their safe zone
        if(p4cPosn == 8)
        {
            p4cPosn = 68;
        }
        else if(p4cPosn == 7)
        {
            p4cPosn = 67;
        }
        else if(p4cPosn == 6)
        {
```

```
                    p4cPosn = 66;
                }
                else if(p4cPosn == 5)
                {
                    p4cPosn = 65;
                }
                else if(p4cPosn == 4)
                {
                    p4cPosn = 64;
                }
                else if(p4cPosn == 3)
                {
                    p4cPosn = 63;
                }
                else if(p4cPosn == 2)
                {
                    p4cPosn = 62;
                }
                else if(p4cPosn == 1)
                {
                    p4cPosn = 61;
                }
                else if(p4cPosn == 0)
                {
                    p4cPosn = 60;
                }
                cout << pForPos[p4cPosn] << endl;    //Output modified game board
                break;
            case 5:
                break;
        }
    }

    //Player 1 draws an "8"
    else if(card == 7)
    {
        //Print the card's specific menu
        cout << "You drew an 8!" << endl;
        cout << "1. Move 8 spaces forward" << endl;
        cout << "2. Skip turn" << endl;

        //Check for legal move
        do
        {
            if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
            {
                cout << "That's an illegal move!";
            }
            cout << "\nWhich choice would you like to make? ";
            pChoice = int_chk(choice);
        } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

        //Execute the desired action
        switch(pChoice)
        {
            case 1:
                p1cPosn += 8;
                if(p1cPosn > 74)
                {
                    p1cPosn = 74;
                }
                cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                break;
            case 2:
                break;
        }
    }

    //Player 1 draws a "10"
```

```
        else if(card == 8)
        {
            //Print the card's specific menu
            cout << "You drew a 10!" << endl;
            cout << "1. Move 10 spaces forward" << endl;
            cout << "2. Move 1 space backward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3 && p1cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) || (pChoice == 3 && p1cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 10;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    p1cPosn -= 1;

                    //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                    if(p1cPosn == 8)
                    {
                        p1cPosn = 68;
                    }
                    else if(p1cPosn == 7)
                    {
                        p1cPosn = 67;
                    }
                    else if(p1cPosn == 6)
                    {
                        p1cPosn = 66;
                    }
                    else if(p1cPosn == 5)
                    {
                        p1cPosn = 65;
                    }
                    else if(p1cPosn == 4)
                    {
                        p1cPosn = 64;
                    }
                    else if(p1cPosn == 3)
                    {
                        p1cPosn = 63;
                    }
                    else if(p1cPosn == 2)
                    {
                        p1cPosn = 62;
                    }
                    else if(p1cPosn == 1)
                    {
                        p1cPosn = 61;
                    }
                    else if(p1cPosn == 0)
                    {
                        p1cPosn = 60;
```

```
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 1 draws an "11"
        else if(card == 9)
        {
            //Print the card's specific menu
            cout << "You drew an 11!" << endl;
            cout << "1. Move 11 spaces forward" << endl;
            cout << "2. Switch places with Player Two's pawn" << endl;
            cout << "3. Switch places with Player Three's pawn" << endl;
            cout << "4. Switch places with Player Four's pawn" << endl;
            cout << "5. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 5) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) ||
                  (pChoice == 2 && p2cPosn < 9) || (pChoice == 3 && p1cPosn < 9) || (pChoice == 3
&& p3cPosn < 9) ||
                  (pChoice == 4 && p1cPosn < 9) || (pChoice == 4 && p4cPosn < 9) || (pChoice == 4
&& p1cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 5) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn <
9) ||
                    (pChoice == 2 && p2cPosn < 9) || (pChoice == 3 && p1cPosn < 9) || (pChoice ==
3 && p3cPosn < 9) ||
                    (pChoice == 4 && p1cPosn < 9) || (pChoice == 4 && p4cPosn < 9) || (pChoice ==
4 && p1cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 11;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    if(p1cPosn >= 15 && p2cPosn >= 15)
                    {
                        temp = p1cPosn;
                        p1cPosn = p2cPosn - 15;
                        p2cPosn = temp + 15;
                    }
                    else if(p1cPosn >= 15 && p2cPosn <= 15)
                    {
                        temp = p1cPosn;
                        p1cPosn = 60 + p2cPosn - 15;
                        p2cPosn = 15 - (60 - temp);
                    }
                    else if(p1cPosn <= 15 && p2cPosn <= 15)
                    {
                        temp = p1cPosn;
                        p1cPosn = 60 + p2cPosn - 15;
                        p2cPosn = temp + 15;
                    }
                    else if(p1cPosn <= 15 && p2cPosn >= 15)
```

```
{
    p1cPosn = p2cPosn - 15;
    p2cPosn = p2cPosn - (p1cPosn - 10);
}

//Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
if(p1cPosn == 8)
{
    p1cPosn = 68;
}
else if(p1cPosn == 7)
{
    p1cPosn = 67;
}
else if(p1cPosn == 6)
{
    p1cPosn = 66;
}
else if(p1cPosn == 5)
{
    p1cPosn = 65;
}
else if(p1cPosn == 4)
{
    p1cPosn = 64;
}
else if(p1cPosn == 3)
{
    p1cPosn = 63;
}
else if(p1cPosn == 2)
{
    p1cPosn = 62;
}
else if(p1cPosn == 1)
{
    p1cPosn = 61;
}
else if(p1cPosn == 0)
{
    p1cPosn = 60;
}

//Determine if Player 2 has moved before their safe zone (P2-0 - P2-8)
if(p2cPosn == 8)
{
    p2cPosn = 68;
}
else if(p2cPosn == 7)
{
    p2cPosn = 67;
}
else if(p2cPosn == 6)
{
    p2cPosn = 66;
}
else if(p2cPosn == 5)
{
    p2cPosn = 65;
}
else if(p2cPosn == 4)
{
    p2cPosn = 64;
}
else if(p2cPosn == 3)
{
    p2cPosn = 63;
}
else if(p2cPosn == 2)
{
    p2cPosn = 62;
```

```
        }
        else if(p2cPosn == 1)
        {
            p2cPosn = 61;
        }
        else if(p2cPosn == 0)
        {
            p2cPosn = 60;
        }
        cout << pOnePos[p1cPosn] << endl;
        cout << endl;
        cout << pTwoPos[p2cPosn] << endl;
        break;
    case 3:
        if(p1cPosn >= 15 && p3cPosn >= 15)
        {
            temp = p1cPosn;
            p1cPosn = p3cPosn - 15;
            p3cPosn = temp + 15;
        }
        else if(p1cPosn >= 15 && p3cPosn <= 15)
        {
            temp = p1cPosn;
            p1cPosn = 60 + p3cPosn - 15;
            p3cPosn = 15 - (60 - temp);
        }
        else if(p1cPosn <= 15 && p3cPosn <= 15)
        {
            temp = p1cPosn;
            p1cPosn = 60 + p3cPosn - 15;
            p3cPosn = temp + 15;
        }
        else if(p1cPosn <= 15 && p3cPosn >= 15)
        {
            p1cPosn = p3cPosn - 15;
            p3cPosn = p3cPosn - (p1cPosn - 10);
        }

        //Determine if Player 1 has moved before their safe zone
        if(p1cPosn == 8)
        {
            p1cPosn = 68;
        }
        else if(p1cPosn == 7)
        {
            p1cPosn = 67;
        }
        else if(p1cPosn == 6)
        {
            p1cPosn = 66;
        }
        else if(p1cPosn == 5)
        {
            p1cPosn = 65;
        }
        else if(p1cPosn == 4)
        {
            p1cPosn = 64;
        }
        else if(p1cPosn == 3)
        {
            p1cPosn = 63;
        }
        else if(p1cPosn == 2)
        {
            p1cPosn = 62;
        }
        else if(p1cPosn == 1)
        {
            p1cPosn = 61;
        }
```

```
        else if(p1cPosn == 0)
        {
            p1cPosn = 60;
        }

        //Determine if Player 3 has moved before their safe zone
        if(p3cPosn == 8)
        {
            p3cPosn = 68;
        }
        else if(p3cPosn == 7)
        {
            p3cPosn = 67;
        }
        else if(p3cPosn == 6)
        {
            p3cPosn = 66;
        }
        else if(p3cPosn == 5)
        {
            p3cPosn = 65;
        }
        else if(p3cPosn == 4)
        {
            p3cPosn = 64;
        }
        else if(p3cPosn == 3)
        {
            p3cPosn = 63;
        }
        else if(p3cPosn == 2)
        {
            p3cPosn = 62;
        }
        else if(p3cPosn == 1)
        {
            p3cPosn = 61;
        }
        else if(p3cPosn == 0)
        {
            p3cPosn = 60;
        }
        cout << pOnePos[p1cPosn] << endl;
        cout << endl;
        cout << pTrePos[p3cPosn] << endl;
        break;
    case 4:
        if(p1cPosn >= 15 && p4cPosn >= 15)
        {
            temp = p1cPosn;
            p1cPosn = p4cPosn - 15;
            p4cPosn = temp + 15;
        }
        else if(p1cPosn >= 15 && p4cPosn <= 15)
        {
            temp = p1cPosn;
            p1cPosn = 60 + p4cPosn - 15;
            p4cPosn = 15 - (60 - temp);
        }
        else if(p1cPosn <= 15 && p4cPosn <= 15)
        {
            temp = p1cPosn;
            p1cPosn = 60 + p4cPosn - 15;
            p4cPosn = temp + 15;
        }
        else if(p1cPosn <= 15 && p4cPosn >= 15)
        {
            p1cPosn = p4cPosn - 15;
            p4cPosn = p4cPosn - (p1cPosn - 10);
        }
```

```
//Determine if Player 1 has moved before their safe zone
if(p1cPosn == 8)
{
    p1cPosn = 68;
}
else if(p1cPosn == 7)
{
    p1cPosn = 67;
}
else if(p1cPosn == 6)
{
    p1cPosn = 66;
}
else if(p1cPosn == 5)
{
    p1cPosn = 65;
}
else if(p1cPosn == 4)
{
    p1cPosn = 64;
}
else if(p1cPosn == 3)
{
    p1cPosn = 63;
}
else if(p1cPosn == 2)
{
    p1cPosn = 62;
}
else if(p1cPosn == 1)
{
    p1cPosn = 61;
}
else if(p1cPosn == 0)
{
    p1cPosn = 60;
}

//Determine if Player 4 has moved before their safe zone
if(p4cPosn == 8)
{
    p4cPosn = 68;
}
else if(p4cPosn == 7)
{
    p4cPosn = 67;
}
else if(p4cPosn == 6)
{
    p4cPosn = 66;
}
else if(p4cPosn == 5)
{
    p4cPosn = 65;
}
else if(p4cPosn == 4)
{
    p4cPosn = 64;
}
else if(p4cPosn == 3)
{
    p4cPosn = 63;
}
else if(p4cPosn == 2)
{
    p4cPosn = 62;
}
else if(p4cPosn == 1)
{
    p4cPosn = 61;
}
```

```
                    else if(p4cPosn == 0)
                    {
                        p4cPosn = 60;
                    }
                    cout << pOnePos[p1cPosn] << endl;
                    cout << endl;
                    cout << pForPos[p4cPosn] << endl;
                    break;
                case 5:
                    break;
            }
        }

        //Player 1 draws a "12"
        else if(card == 10)
        {
            //Print the card's specific menu
            cout << "You drew a 12!" << endl;
            cout << "1. Move 12 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p1cPosn >=
9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p1cPosn += 12;
                    if(p1cPosn > 74)
                    {
                        p1cPosn = 74;
                    }
                    cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 1 draws a "Sorry!" card
        else
        {
            //Print the card's specific menu
            cout << "You drew a \"Sorry!\" Card!" << endl;
            cout << "1. Move Player Two's pawn off the game board" << endl;
            cout << "2. Move Player Three's pawn off the game board" << endl;
            cout << "3. Move Player Four's pawn off the game board" << endl;
            cout << "4. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 4) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p3cPosn <
9) || (pChoice == 3 && p4cPosn < 9) ||
                   (pChoice == 4 && p2cPosn >= 9) || (pChoice == 4 && p3cPosn >= 9) || (pChoice ==
4 && p4cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
```

```
                pChoice = int_chk(choice);
            } while((pChoice > 4) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p3cPosn <
9) || (pChoice == 3 && p4cPosn < 9) ||
                    (pChoice == 4 && p2cPosn >= 9) || (pChoice == 4 && p3cPosn >= 9) || (pChoice
== 4 && p4cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p2cPosn = 0;
                    cout << "\nPlayer 2 has been moved off the game board!" << endl;
                    cout << pTwoPos[0] << endl;
                    break;
                case 2:
                    p3cPosn = 0;
                    cout << "\nPlayer 3 has been moved off the game board!" << endl;
                    cout << pTrePos[0] << endl;
                    break;
                case 3:
                    p4cPosn = 0;
                    cout << "\nPlayer 4 has been moved off the game board!" << endl;
                    cout << pForPos[0] << endl;
                    break;
                case 4:
                    break;
            }
        }

        //Determine whether Player 1 has won the game
        if(p1cPosn == 74)
        {
            cout << "\nPlayer 1 has won the game!" << endl;
            restart = true;
        }

        //Reset the player's choice
        pChoice = 0;

        //Begin player 2's turn
        if(restart == false)
        {
            cout << endl;
            cout << setw(25) << "PLAYER 2'S TURN:";
            cout << "\nPress the Enter key to draw a card! ";
            cin.ignore();
            cin.get();

            //generate a random card
            card = (rand() % 11) + 1;
            cout << endl;

            //Determine the card value and apply the rules
            //Player 2 draws a "1"
            if(card == 1)
            {
                //Print the card's specific menu
                cout << "You drew a 1!" << endl;
                cout << "1. Start" << endl;
                cout << "2. Move 1 space forward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p2cPosn >= 9) || (pChoice == 2 &&
p2cPosn < 9) || (pChoice == 3))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
```

```
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p2cPosn >= 9) || (pChoice == 2 &&
p2cPosn < 9) || (pChoice == 3));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn = 10;
                        cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
                        break;
                    case 2:
                        p2cPosn += 1;
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 3:
                        break;
                }
            }

            //Player 2 draws a "2"
            else if(card == 2)
            {
                //Print the card's specific menu
                cout << "You drew a 2!" << endl;
                cout << "1. Start" << endl;
                cout << "2. Move 2 spaces forward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p2cPosn >= 9) || (pChoice == 1 &&
p2cPosn >= 9) || (pChoice == 3))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p2cPosn >= 9) || (pChoice == 1 &&
p2cPosn >= 9) || (pChoice == 3));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn = 10;
                        cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
                        break;
                    case 2:
                        p2cPosn += 2;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;   //Output modified game board
                        break;
                    case 3:
                        break;
                }
            }

            //Player 2 draws a "3"
            else if(card == 3)
            {
                //Print the card's specific menu
                cout << "You drew a 3!" << endl;
                cout << "1. Move 3 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
```

```
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 3;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 2 draws a "4"
            else if(card == 4)
            {
                //Print the card's specific menu
                cout << "You drew a 4!" << endl;
                cout << "1. Move 4 spaces backward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn -= 4;

                        //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                        if(p2cPosn == 8)
                        {
                            p2cPosn = 68;
                        }
                        else if(p2cPosn == 7)
                        {
                            p2cPosn = 67;
                        }
                        else if(p2cPosn == 6)
                        {
                            p2cPosn = 66;
                        }
                        else if(p2cPosn == 5)
                        {
                            p2cPosn = 65;
```

```
                    }
                    else if(p2cPosn == 4)
                    {
                        p2cPosn = 64;
                    }
                    else if(p2cPosn == 3)
                    {
                        p2cPosn = 63;
                    }
                    else if(p2cPosn == 2)
                    {
                        p2cPosn = 62;
                    }
                    else if(p2cPosn == 1)
                    {
                        p2cPosn = 61;
                    }
                    else if(p2cPosn == 0)
                    {
                        p2cPosn = 60;
                    }
                    cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 2 draws a "5"
        else if(card == 5)
        {
            //Print the card's specific menu
            cout << "You drew a 5!" << endl;
            cout << "1. Move 5 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p2cPosn += 5;
                    if(p2cPosn > 74)
                    {
                        p2cPosn = 74;
                    }
                    cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 2 draws a "7"
        else if(card == 6)
        {
            //Print the card's specific menu
            cout << "You drew a 7!" << endl;
            cout << "1. Move 7 spaces forward" << endl;
```

```
                cout << "2. Move Player One 7 spaces backward" << endl;
                cout << "3. Move Player Three 7 spaces backward" << endl;
                cout << "4. Move Player Four 7 spaces backward" << endl;
                cout << "5. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 5) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p1cPosn
< 9) ||
                       (pChoice == 3 && p3cPosn < 9) || (pChoice == 4 && p4cPosn < 9) || (pChoice
== 5 && p2cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 5) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p1cPosn < 9) ||
                        (pChoice == 3 && p3cPosn < 9) || (pChoice == 4 && p4cPosn < 9) || (pChoice
== 5 && p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 7;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        p1cPosn -= 7;

                        //Determine if Player 2 has moved before their safe zone
                        if(p1cPosn == 8)
                        {
                            p1cPosn = 68;
                        }
                        else if(p1cPosn == 7)
                        {
                            p1cPosn = 67;
                        }
                        else if(p1cPosn == 6)
                        {
                            p1cPosn = 66;
                        }
                        else if(p1cPosn == 5)
                        {
                            p1cPosn = 65;
                        }
                        else if(p1cPosn == 4)
                        {
                            p1cPosn = 64;
                        }
                        else if(p1cPosn == 3)
                        {
                            p1cPosn = 63;
                        }
                        else if(p1cPosn == 2)
                        {
                            p1cPosn = 62;
                        }
                        else if(p1cPosn == 1)
                        {
                            p1cPosn = 61;
                        }
                        else if(p1cPosn == 0)
                        {
```

```
            p1cPosn = 60;
        }
        cout << pTwoPos[p1cPosn] << endl;    //Output modified game board
        break;
    case 3:
        p3cPosn -= 7;

        //Determine if Player 3 has moved before their safe zone
        if(p3cPosn == 8)
        {
            p3cPosn = 68;
        }
        else if(p3cPosn == 7)
        {
            p3cPosn = 67;
        }
        else if(p3cPosn == 6)
        {
            p3cPosn = 66;
        }
        else if(p3cPosn == 5)
        {
            p3cPosn = 65;
        }
        else if(p3cPosn == 4)
        {
            p3cPosn = 64;
        }
        else if(p3cPosn == 3)
        {
            p3cPosn = 63;
        }
        else if(p3cPosn == 2)
        {
            p3cPosn = 62;
        }
        else if(p3cPosn == 1)
        {
            p3cPosn = 61;
        }
        else if(p3cPosn == 0)
        {
            p3cPosn = 60;
        }
        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
        break;
    case 4:
        p4cPosn -= 7;

        //Determine if Player 4 has moved before their safe zone
        if(p4cPosn == 8)
        {
            p4cPosn = 68;
        }
        else if(p4cPosn == 7)
        {
            p4cPosn = 67;
        }
        else if(p4cPosn == 6)
        {
            p4cPosn = 66;
        }
        else if(p4cPosn == 5)
        {
            p4cPosn = 65;
        }
        else if(p4cPosn == 4)
        {
            p4cPosn = 64;
        }
        else if(p4cPosn == 3)
```

```
                        {
                            p4cPosn = 63;
                        }
                        else if(p4cPosn == 2)
                        {
                            p4cPosn = 62;
                        }
                        else if(p4cPosn == 1)
                        {
                            p4cPosn = 61;
                        }
                        else if(p4cPosn == 0)
                        {
                            p4cPosn = 60;
                        }
                        cout << pForPos[p4cPosn] << endl;    //Output modified game board
                        break;
                    case 5:
                        break;
                }
            }

            //Player 2 draws an "8"
            else if(card == 7)
            {
                //Print the card's specific menu
                cout << "You drew an 8!" << endl;
                cout << "1. Move 8 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 8;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 2 draws a "10"
            else if(card == 8)
            {
                //Print the card's specific menu
                cout << "You drew a 10!" << endl;
                cout << "1. Move 10 spaces forward" << endl;
                cout << "2. Move 1 space backward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
```

```
                    if((pChoice > 3) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
< 9) || (pChoice == 3 && p2cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
< 9) || (pChoice == 3 && p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 10;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        p2cPosn -= 1;

                        //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                        if(p2cPosn == 8)
                        {
                            p2cPosn = 68;
                        }
                        else if(p2cPosn == 7)
                        {
                            p2cPosn = 67;
                        }
                        else if(p2cPosn == 6)
                        {
                            p2cPosn = 66;
                        }
                        else if(p2cPosn == 5)
                        {
                            p2cPosn = 65;
                        }
                        else if(p2cPosn == 4)
                        {
                            p2cPosn = 64;
                        }
                        else if(p2cPosn == 3)
                        {
                            p2cPosn = 63;
                        }
                        else if(p2cPosn == 2)
                        {
                            p2cPosn = 62;
                        }
                        else if(p2cPosn == 1)
                        {
                            p2cPosn = 61;
                        }
                        else if(p2cPosn == 0)
                        {
                            p2cPosn = 60;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 3:
                        break;
                }
            }

            //Player 2 draws an "11"
            else if(card == 9)
            {
```

```
                //Print the card's specific menu
                cout << "You drew an 11!" << endl;
                cout << "1. Move 11 spaces forward" << endl;
                cout << "2. Switch places with Player One's pawn" << endl;
                cout << "3. Switch places with Player Three's pawn" << endl;
                cout << "4. Switch places with Player Four's pawn" << endl;
                cout << "5. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 5) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
< 9) ||
                       (pChoice == 2 && p1cPosn < 9) || (pChoice == 3 && p2cPosn < 9) || (pChoice
== 3 && p3cPosn < 9) ||
                       (pChoice == 4 && p2cPosn < 9) || (pChoice == 4 && p4cPosn < 9) || (pChoice
== 4 && p2cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 5) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn < 9) ||
                        (pChoice == 2 && p1cPosn < 9) || (pChoice == 3 && p2cPosn < 9) || (pChoice
== 3 && p3cPosn < 9) ||
                        (pChoice == 4 && p2cPosn < 9) || (pChoice == 4 && p4cPosn < 9) || (pChoice
== 4 && p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 11;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        if(p2cPosn >= 15 && p1cPosn >= 15)
                        {
                            temp = p2cPosn;
                            p2cPosn = p1cPosn - 15;
                            p1cPosn = temp + 15;
                        }
                        else if(p2cPosn >= 15 && p1cPosn <= 15)
                        {
                            temp = p2cPosn;
                            p2cPosn = 60 + p1cPosn - 15;
                            p1cPosn = 15 - (60 - temp);
                        }
                        else if(p2cPosn <= 15 && p1cPosn <= 15)
                        {
                            temp = p2cPosn;
                            p2cPosn = 60 + p1cPosn - 15;
                            p1cPosn = temp + 15;
                        }
                        else if(p2cPosn <= 15 && p1cPosn >= 15)
                        {
                            p2cPosn = p1cPosn - 15;
                            p1cPosn = p1cPosn - (p2cPosn - 10);
                        }

                        //Determine if Player 2 has moved before their safe zone
                        if(p2cPosn == 8)
                        {
                            p2cPosn = 68;
                        }
                        else if(p2cPosn == 7)
```

```
{
    p2cPosn = 67;
}
else if(p2cPosn == 6)
{
    p2cPosn = 66;
}
else if(p2cPosn == 5)
{
    p2cPosn = 65;
}
else if(p2cPosn == 4)
{
    p2cPosn = 64;
}
else if(p2cPosn == 3)
{
    p2cPosn = 63;
}
else if(p2cPosn == 2)
{
    p2cPosn = 62;
}
else if(p2cPosn == 1)
{
    p2cPosn = 61;
}
else if(p2cPosn == 0)
{
    p2cPosn = 60;
}

//Determine if Player 2 has moved before their safe zone
if(p1cPosn == 8)
{
    p1cPosn = 68;
}
else if(p1cPosn == 7)
{
    p1cPosn = 67;
}
else if(p1cPosn == 6)
{
    p1cPosn = 66;
}
else if(p1cPosn == 5)
{
    p1cPosn = 65;
}
else if(p1cPosn == 4)
{
    p1cPosn = 64;
}
else if(p1cPosn == 3)
{
    p1cPosn = 63;
}
else if(p1cPosn == 2)
{
    p1cPosn = 62;
}
else if(p1cPosn == 1)
{
    p1cPosn = 61;
}
else if(p1cPosn == 0)
{
    p1cPosn = 60;
}
cout << pTwoPos[p2cPosn] << endl;
cout << endl;
```

```
        cout << pOnePos[p1cPosn] << endl;
        break;
    case 3:
        if(p2cPosn >= 15 && p3cPosn >= 15)
        {
            temp = p2cPosn;
            p2cPosn = p3cPosn - 15;
            p3cPosn = temp + 15;
        }
        else if(p2cPosn >= 15 && p3cPosn <= 15)
        {
            temp = p2cPosn;
            p2cPosn = 60 + p3cPosn - 15;
            p3cPosn = 15 - (60 - temp);
        }
        else if(p2cPosn <= 15 && p3cPosn <= 15)
        {
            temp = p2cPosn;
            p2cPosn = 60 + p3cPosn - 15;
            p3cPosn = temp + 15;
        }
        else if(p2cPosn <= 15 && p3cPosn >= 15)
        {
            p2cPosn = p3cPosn - 15;
            p3cPosn = p3cPosn - (p2cPosn - 10);
        }

        //Determine if Player 2 has moved before their safe zone
        if(p2cPosn == 8)
        {
            p2cPosn = 68;
        }
        else if(p2cPosn == 7)
        {
            p2cPosn = 67;
        }
        else if(p2cPosn == 6)
        {
            p2cPosn = 66;
        }
        else if(p2cPosn == 5)
        {
            p2cPosn = 65;
        }
        else if(p2cPosn == 4)
        {
            p2cPosn = 64;
        }
        else if(p2cPosn == 3)
        {
            p2cPosn = 63;
        }
        else if(p2cPosn == 2)
        {
            p2cPosn = 62;
        }
        else if(p2cPosn == 1)
        {
            p2cPosn = 61;
        }
        else if(p2cPosn == 0)
        {
            p2cPosn = 60;
        }

        //Determine if Player 3 has moved before their safe zone
        if(p3cPosn == 8)
        {
            p3cPosn = 68;
        }
        else if(p3cPosn == 7)
```

```
        {
            p3cPosn = 67;
        }
        else if(p3cPosn == 6)
        {
            p3cPosn = 66;
        }
        else if(p3cPosn == 5)
        {
            p3cPosn = 65;
        }
        else if(p3cPosn == 4)
        {
            p3cPosn = 64;
        }
        else if(p3cPosn == 3)
        {
            p3cPosn = 63;
        }
        else if(p3cPosn == 2)
        {
            p3cPosn = 62;
        }
        else if(p3cPosn == 1)
        {
            p3cPosn = 61;
        }
        else if(p3cPosn == 0)
        {
            p3cPosn = 60;
        }
        cout << pTwoPos[p2cPosn] << endl;
        cout << endl;
        cout << pTrePos[p3cPosn] << endl;
        break;
    case 4:
        if(p2cPosn >= 15 && p4cPosn >= 15)
        {
            temp = p2cPosn;
            p2cPosn = p4cPosn - 15;
            p4cPosn = temp + 15;
        }
        else if(p2cPosn >= 15 && p4cPosn <= 15)
        {
            temp = p2cPosn;
            p2cPosn = 60 + p4cPosn - 15;
            p4cPosn = 15 - (60 - temp);
        }
        else if(p2cPosn <= 15 && p4cPosn <= 15)
        {
            temp = p2cPosn;
            p2cPosn = 60 + p4cPosn - 15;
            p4cPosn = temp + 15;
        }
        else if(p2cPosn <= 15 && p4cPosn >= 15)
        {
            p2cPosn = p4cPosn - 15;
            p4cPosn = p4cPosn - (p2cPosn - 10);
        }

        //Determine if Player 1 has moved before their safe zone
        if(p2cPosn == 8)
        {
            p2cPosn = 68;
        }
        else if(p2cPosn == 7)
        {
            p2cPosn = 67;
        }
        else if(p2cPosn == 6)
        {
```

```
                p2cPosn = 66;
            }
            else if(p2cPosn == 5)
            {
                p2cPosn = 65;
            }
            else if(p2cPosn == 4)
            {
                p2cPosn = 64;
            }
            else if(p2cPosn == 3)
            {
                p2cPosn = 63;
            }
            else if(p2cPosn == 2)
            {
                p2cPosn = 62;
            }
            else if(p2cPosn == 1)
            {
                p2cPosn = 61;
            }
            else if(p2cPosn == 0)
            {
                p2cPosn = 60;
            }

            //Determine if Player 4 has moved before their safe zone
            if(p4cPosn == 8)
            {
                p4cPosn = 68;
            }
            else if(p4cPosn == 7)
            {
                p4cPosn = 67;
            }
            else if(p4cPosn == 6)
            {
                p4cPosn = 66;
            }
            else if(p4cPosn == 5)
            {
                p4cPosn = 65;
            }
            else if(p4cPosn == 4)
            {
                p4cPosn = 64;
            }
            else if(p4cPosn == 3)
            {
                p4cPosn = 63;
            }
            else if(p4cPosn == 2)
            {
                p4cPosn = 62;
            }
            else if(p4cPosn == 1)
            {
                p4cPosn = 61;
            }
            else if(p4cPosn == 0)
            {
                p4cPosn = 60;
            }
            cout << pTwoPos[p2cPosn] << endl;
            cout << endl;
            cout << pForPos[p4cPosn] << endl;
            break;
        case 5:
            break;
    }
```

```
            }

            //Player 2 draws a "12"
            else if(card == 10)
            {
                //Print the card's specific menu
                cout << "You drew a 12!" << endl;
                cout << "1. Move 12 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 && p2cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p2cPosn < 9) || (pChoice == 2 &&
p2cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p2cPosn += 12;
                        if(p2cPosn > 74)
                        {
                            p2cPosn = 74;
                        }
                        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 2 draws a "Sorry!" card
            else
            {
                //Print the card's specific menu
                cout << "You drew a \"Sorry!\" Card!" << endl;
                cout << "1. Move Player One's pawn off the game board" << endl;
                cout << "2. Move Player Three's pawn off the game board" << endl;
                cout << "3. Move Player Four's pawn off the game board" << endl;
                cout << "4. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 4) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p3cPosn
< 9) || (pChoice == 3 && p4cPosn < 9) ||
                       (pChoice == 4 && p1cPosn >= 9) || (pChoice == 4 && p3cPosn >= 9) ||
(pChoice == 4 && p4cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 4) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 &&
p3cPosn < 9) || (pChoice == 3 && p4cPosn < 9) ||
                         (pChoice == 4 && p1cPosn >= 9) || (pChoice == 4 && p3cPosn >= 9) ||
(pChoice == 4 && p4cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p1cPosn = 0;
```

```
                        cout << "\nPlayer 1 has been moved off the game board!" << endl;
                        cout << pOnePos[0] << endl;
                        break;
                    case 2:
                        p3cPosn = 0;
                        cout << "\nPlayer 3 has been moved off the game board!" << endl;
                        cout << pTrePos[0] << endl;
                        break;
                    case 3:
                        p4cPosn = 0;
                        cout << "\nPlayer 4 has been moved off the game board!" << endl;
                        cout << pForPos[0] << endl;
                        break;
                    case 4:
                        break;
                }
            }

            //Determine whether Player 2 has won the game
            if(p2cPosn == 74)
            {
                cout << "\nPlayer 2 has won the game!" << endl;
                restart = true;
            }
        }

        //Reset the player's choice
        pChoice = 0;

        //Begin Player 3's Turn
        if(restart == false)
        {
            cout << endl;
            cout << setw(25) << "PLAYER 3'S TURN:";
            cout << "\nPress the Enter key to draw a card! ";
            cin.ignore();
            cin.get();

            //generate a random card
            card = (rand() % 11) + 1;
            cout << endl;


            //Determine the card value and apply the rules
            //Player 3 draws a "1"
            if(card == 1)
            {
                //Print the card's specific menu
                cout << "You drew a 1!" << endl;
                cout << "1. Start" << endl;
                cout << "2. Move 1 space forward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p3cPosn >= 9) || (pChoice == 2 &&
p3cPosn < 9) || (pChoice == 3))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p3cPosn >= 9) || (pChoice == 2 &&
p3cPosn < 9) || (pChoice == 3));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn = 10;
```

```
                        cout << pTrePos[p3cPosn] << endl;   //Output modified game board
                        break;
                    case 2:
                        p3cPosn += 1;
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 3:
                        break;
                }
            }

            //Player 3 draws a "2"
            else if(card == 2)
            {
                //Print the card's specific menu
                cout << "You drew a 2!" << endl;
                cout << "1. Start" << endl;
                cout << "2. Move 2 spaces forward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p3cPosn >= 9) || (pChoice == 1 &&
p3cPosn >= 9) || (pChoice == 3))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p3cPosn >= 9) || (pChoice == 1 &&
p3cPosn >= 9) || (pChoice == 3));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn = 10;
                        cout << pTrePos[p3cPosn] << endl;   //Output modified game board
                        break;
                    case 2:
                        p3cPosn += 2;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;   //Output modified game board
                        break;
                    case 3:
                        break;
                }
            }

            //Player 3 draws a "3"
            else if(card == 3)
            {
                //Print the card's specific menu
                cout << "You drew a 3!" << endl;
                cout << "1. Move 3 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
```

```
                } while((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn += 3;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 3 draws a "4"
            else if(card == 4)
            {
                //Print the card's specific menu
                cout << "You drew a 4!" << endl;
                cout << "1. Move 4 spaces backward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn -= 4;

                        //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                        if(p3cPosn == 8)
                        {
                            p3cPosn = 68;
                        }
                        else if(p3cPosn == 7)
                        {
                            p3cPosn = 67;
                        }
                        else if(p3cPosn == 6)
                        {
                            p3cPosn = 66;
                        }
                        else if(p3cPosn == 5)
                        {
                            p3cPosn = 65;
                        }
                        else if(p3cPosn == 4)
                        {
                            p3cPosn = 64;
                        }
                        else if(p3cPosn == 3)
                        {
                            p3cPosn = 63;
                        }
```

```
                        else if(p3cPosn == 2)
                        {
                            p3cPosn = 62;
                        }
                        else if(p3cPosn == 1)
                        {
                            p3cPosn = 61;
                        }
                        else if(p3cPosn == 0)
                        {
                            p3cPosn = 60;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 3 draws a "5"
            else if(card == 5)
            {
                //Print the card's specific menu
                cout << "You drew a 5!" << endl;
                cout << "1. Move 5 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn += 5;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 3 draws a "7"
            else if(card == 6)
            {
                //Print the card's specific menu
                cout << "You drew a 7!" << endl;
                cout << "1. Move 7 spaces forward" << endl;
                cout << "2. Move Player One 7 spaces backward" << endl;
                cout << "3. Move Player Two 7 spaces backward" << endl;
                cout << "4. Move Player Four 7 spaces backward" << endl;
                cout << "5. Skip turn" << endl;

                //Check for legal move
                do
                {
```

```
                    if((pChoice > 5) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p1cPosn
< 9) ||
                      (pChoice == 3 && p2cPosn < 9) || (pChoice == 4 && p4cPosn < 9) || (pChoice
== 5 && p3cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 5) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p1cPosn < 9) ||
                       (pChoice == 3 && p2cPosn < 9) || (pChoice == 4 && p4cPosn < 9) || (pChoice
== 5 && p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn += 7;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        p1cPosn -= 7;

                        //Determine if Player 1 has moved before their safe zone
                        if(p1cPosn == 8)
                        {
                            p1cPosn = 68;
                        }
                        else if(p1cPosn == 7)
                        {
                            p1cPosn = 67;
                        }
                        else if(p1cPosn == 6)
                        {
                            p1cPosn = 66;
                        }
                        else if(p1cPosn == 5)
                        {
                            p1cPosn = 65;
                        }
                        else if(p1cPosn == 4)
                        {
                            p1cPosn = 64;
                        }
                        else if(p1cPosn == 3)
                        {
                            p1cPosn = 63;
                        }
                        else if(p1cPosn == 2)
                        {
                            p1cPosn = 62;
                        }
                        else if(p1cPosn == 1)
                        {
                            p1cPosn = 61;
                        }
                        else if(p1cPosn == 0)
                        {
                            p1cPosn = 60;
                        }
                        cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                        break;
                    case 3:
                        p2cPosn -= 7;

                        //Determine if Player 3 has moved before their safe zone
```

```
        if(p2cPosn == 8)
        {
            p2cPosn = 68;
        }
        else if(p2cPosn == 7)
        {
            p2cPosn = 67;
        }
        else if(p2cPosn == 6)
        {
            p2cPosn = 66;
        }
        else if(p2cPosn == 5)
        {
            p2cPosn = 65;
        }
        else if(p2cPosn == 4)
        {
            p2cPosn = 64;
        }
        else if(p2cPosn == 3)
        {
            p2cPosn = 63;
        }
        else if(p2cPosn == 2)
        {
            p2cPosn = 62;
        }
        else if(p2cPosn == 1)
        {
            p2cPosn = 61;
        }
        else if(p2cPosn == 0)
        {
            p2cPosn = 60;
        }
        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
        break;
    case 4:
        p4cPosn -= 7;

        //Determine if Player 4 has moved before their safe zone
        if(p4cPosn == 8)
        {
            p4cPosn = 68;
        }
        else if(p4cPosn == 7)
        {
            p4cPosn = 67;
        }
        else if(p4cPosn == 6)
        {
            p4cPosn = 66;
        }
        else if(p4cPosn == 5)
        {
            p4cPosn = 65;
        }
        else if(p4cPosn == 4)
        {
            p4cPosn = 64;
        }
        else if(p4cPosn == 3)
        {
            p4cPosn = 63;
        }
        else if(p4cPosn == 2)
        {
            p4cPosn = 62;
        }
        else if(p4cPosn == 1)
```

```
                        {
                            p4cPosn = 61;
                        }
                        else if(p4cPosn == 0)
                        {
                            p4cPosn = 60;
                        }
                        cout << pForPos[p4cPosn] << endl;    //Output modified game board
                        break;
                    case 5:
                        break;
                }
            }

            //Player 3 draws an "8"
            else if(card == 7)
            {
                //Print the card's specific menu
                cout << "You drew an 8!" << endl;
                cout << "1. Move 8 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn += 8;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 3 draws a "10"
            else if(card == 8)
            {
                //Print the card's specific menu
                cout << "You drew a 10!" << endl;
                cout << "1. Move 10 spaces forward" << endl;
                cout << "2. Move 1 space backward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
< 9) || (pChoice == 3 && p3cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
```

```
                }while((pChoice > 3) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
< 9) || (pChoice == 3 && p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn += 10;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        p3cPosn -= 1;

                        //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                        if(p3cPosn == 8)
                        {
                            p3cPosn = 68;
                        }
                        else if(p3cPosn == 7)
                        {
                            p3cPosn = 67;
                        }
                        else if(p3cPosn == 6)
                        {
                            p3cPosn = 66;
                        }
                        else if(p3cPosn == 5)
                        {
                            p3cPosn = 65;
                        }
                        else if(p3cPosn == 4)
                        {
                            p3cPosn = 64;
                        }
                        else if(p3cPosn == 3)
                        {
                            p3cPosn = 63;
                        }
                        else if(p3cPosn == 2)
                        {
                            p3cPosn = 62;
                        }
                        else if(p3cPosn == 1)
                        {
                            p3cPosn = 61;
                        }
                        else if(p3cPosn == 0)
                        {
                            p3cPosn = 60;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 3:
                        break;
                }
            }

            //Player 3 draws an "11"
            else if(card == 9)
            {
                //Print the card's specific menu
                cout << "You drew an 11!" << endl;
                cout << "1. Move 11 spaces forward" << endl;
                cout << "2. Switch places with Player One's pawn" << endl;
                cout << "3. Switch places with Player Two's pawn" << endl;
                cout << "4. Switch places with Player Four's pawn" << endl;
                cout << "5. Skip turn" << endl;
```

```
                //Check for legal move
                do
                {
                    if((pChoice > 5) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
< 9) ||
                      (pChoice == 2 && p1cPosn < 9) || (pChoice == 3 && p3cPosn < 9) || (pChoice
== 3 && p2cPosn < 9) ||
                      (pChoice == 4 && p3cPosn < 9) || (pChoice == 4 && p4cPosn < 9) || (pChoice
== 4 && p3cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 5) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p3cPosn < 9) ||
                       (pChoice == 2 && p1cPosn < 9) || (pChoice == 3 && p3cPosn < 9) || (pChoice
== 3 && p2cPosn < 9) ||
                       (pChoice == 4 && p3cPosn < 9) || (pChoice == 4 && p4cPosn < 9) || (pChoice
== 4 && p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn += 11;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        if(p3cPosn >= 15 && p1cPosn >= 15)
                        {
                            temp = p3cPosn;
                            p3cPosn = p1cPosn - 15;
                            p1cPosn = temp + 15;
                        }
                        else if(p3cPosn >= 15 && p1cPosn <= 15)
                        {
                            temp = p3cPosn;
                            p3cPosn = 60 + p1cPosn - 15;
                            p1cPosn = 15 - (60 - temp);
                        }
                        else if(p3cPosn <= 15 && p1cPosn <= 15)
                        {
                            temp = p3cPosn;
                            p3cPosn = 60 + p1cPosn - 15;
                            p1cPosn = temp + 15;
                        }
                        else if(p3cPosn <= 15 && p1cPosn >= 15)
                        {
                            p3cPosn = p1cPosn - 15;
                            p1cPosn = p1cPosn - (p3cPosn - 10);
                        }

                        //Determine if Player 2 has moved before their safe zone
                        if(p3cPosn == 8)
                        {
                            p3cPosn = 68;
                        }
                        else if(p3cPosn == 7)
                        {
                            p3cPosn = 67;
                        }
                        else if(p3cPosn == 6)
                        {
                            p3cPosn = 66;
                        }
```

```
        else if(p3cPosn == 5)
        {
            p3cPosn = 65;
        }
        else if(p3cPosn == 4)
        {
            p3cPosn = 64;
        }
        else if(p3cPosn == 3)
        {
            p3cPosn = 63;
        }
        else if(p3cPosn == 2)
        {
            p3cPosn = 62;
        }
        else if(p3cPosn == 1)
        {
            p3cPosn = 61;
        }
        else if(p3cPosn == 0)
        {
            p3cPosn = 60;
        }

        //Determine if Player 2 has moved before their safe zone
        if(p1cPosn == 8)
        {
            p1cPosn = 68;
        }
        else if(p1cPosn == 7)
        {
            p1cPosn = 67;
        }
        else if(p1cPosn == 6)
        {
            p1cPosn = 66;
        }
        else if(p1cPosn == 5)
        {
            p1cPosn = 65;
        }
        else if(p1cPosn == 4)
        {
            p1cPosn = 64;
        }
        else if(p1cPosn == 3)
        {
            p1cPosn = 63;
        }
        else if(p1cPosn == 2)
        {
            p1cPosn = 62;
        }
        else if(p1cPosn == 1)
        {
            p1cPosn = 61;
        }
        else if(p1cPosn == 0)
        {
            p1cPosn = 60;
        }
        cout << pTrePos[p3cPosn] << endl;
        cout << endl;
        cout << pOnePos[p1cPosn] << endl;
        break;
    case 3:
        if(p3cPosn >= 15 && p2cPosn >= 15)
        {
            temp = p3cPosn;
            p3cPosn = p2cPosn - 15;
```

```
    p2cPosn = temp + 15;
}
else if(p3cPosn >= 15 && p2cPosn <= 15)
{
    temp = p3cPosn;
    p3cPosn = 60 + p2cPosn - 15;
    p2cPosn = 15 - (60 - temp);
}
else if(p3cPosn <= 15 && p2cPosn <= 15)
{
    temp = p3cPosn;
    p3cPosn = 60 + p2cPosn - 15;
    p2cPosn = temp + 15;
}
else if(p3cPosn <= 15 && p2cPosn >= 15)
{
    p3cPosn = p2cPosn - 15;
    p2cPosn = p2cPosn - (p3cPosn - 10);
}

//Determine if Player 2 has moved before their safe zone
if(p3cPosn == 8)
{
    p3cPosn = 68;
}
else if(p3cPosn == 7)
{
    p3cPosn = 67;
}
else if(p3cPosn == 6)
{
    p3cPosn = 66;
}
else if(p3cPosn == 5)
{
    p3cPosn = 65;
}
else if(p3cPosn == 4)
{
    p3cPosn = 64;
}
else if(p3cPosn == 3)
{
    p3cPosn = 63;
}
else if(p3cPosn == 2)
{
    p3cPosn = 62;
}
else if(p3cPosn == 1)
{
    p3cPosn = 61;
}
else if(p3cPosn == 0)
{
    p3cPosn = 60;
}

//Determine if Player 3 has moved before their safe zone
if(p2cPosn == 8)
{
    p2cPosn = 68;
}
else if(p2cPosn == 7)
{
    p2cPosn = 67;
}
else if(p2cPosn == 6)
{
    p2cPosn = 66;
}
```

```
        else if(p2cPosn == 5)
        {
            p2cPosn = 65;
        }
        else if(p2cPosn == 4)
        {
            p2cPosn = 64;
        }
        else if(p2cPosn == 3)
        {
            p2cPosn = 63;
        }
        else if(p2cPosn == 2)
        {
            p2cPosn = 62;
        }
        else if(p2cPosn == 1)
        {
            p2cPosn = 61;
        }
        else if(p2cPosn == 0)
        {
            p2cPosn = 60;
        }
        cout << pTrePos[p3cPosn] << endl;
        cout << endl;
        cout << pTwoPos[p2cPosn] << endl;
        break;
    case 4:
        if(p3cPosn >= 15 && p4cPosn >= 15)
        {
            temp = p3cPosn;
            p3cPosn = p4cPosn - 15;
            p4cPosn = temp + 15;
        }
        else if(p3cPosn >= 15 && p4cPosn <= 15)
        {
            temp = p3cPosn;
            p3cPosn = 60 + p4cPosn - 15;
            p4cPosn = 15 - (60 - temp);
        }
        else if(p3cPosn <= 15 && p4cPosn <= 15)
        {
            temp = p3cPosn;
            p3cPosn = 60 + p4cPosn - 15;
            p4cPosn = temp + 15;
        }
        else if(p3cPosn <= 15 && p4cPosn >= 15)
        {
            p3cPosn = p4cPosn - 15;
            p4cPosn = p4cPosn - (p3cPosn - 10);
        }

        //Determine if Player 1 has moved before their safe zone
        if(p3cPosn == 8)
        {
            p3cPosn = 68;
        }
        else if(p3cPosn == 7)
        {
            p3cPosn = 67;
        }
        else if(p3cPosn == 6)
        {
            p3cPosn = 66;
        }
        else if(p3cPosn == 5)
        {
            p3cPosn = 65;
        }
        else if(p3cPosn == 4)
```

```
            {
                p3cPosn = 64;
            }
            else if(p3cPosn == 3)
            {
                p3cPosn = 63;
            }
            else if(p3cPosn == 2)
            {
                p3cPosn = 62;
            }
            else if(p3cPosn == 1)
            {
                p3cPosn = 61;
            }
            else if(p3cPosn == 0)
            {
                p3cPosn = 60;
            }

            //Determine if Player 4 has moved before their safe zone
            if(p4cPosn == 8)
            {
                p4cPosn = 68;
            }
            else if(p4cPosn == 7)
            {
                p4cPosn = 67;
            }
            else if(p4cPosn == 6)
            {
                p4cPosn = 66;
            }
            else if(p4cPosn == 5)
            {
                p4cPosn = 65;
            }
            else if(p4cPosn == 4)
            {
                p4cPosn = 64;
            }
            else if(p4cPosn == 3)
            {
                p4cPosn = 63;
            }
            else if(p4cPosn == 2)
            {
                p4cPosn = 62;
            }
            else if(p4cPosn == 1)
            {
                p4cPosn = 61;
            }
            else if(p4cPosn == 0)
            {
                p4cPosn = 60;
            }
            cout << pTrePos[p3cPosn] << endl;
            cout << endl;
            cout << pForPos[p4cPosn] << endl;
            break;
        case 5:
            break;
    }
}

//Player 3 draws a "12"
else if(card == 10)
{
    //Print the card's specific menu
    cout << "You drew a 12!" << endl;
```

```
                cout << "1. Move 12 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 && p3cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p3cPosn < 9) || (pChoice == 2 &&
p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p3cPosn += 12;
                        if(p3cPosn > 74)
                        {
                            p3cPosn = 74;
                        }
                        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 3 draws a "Sorry!" card
            else
            {
                //Print the card's specific menu
                cout << "You drew a \"Sorry!\" Card!" << endl;
                cout << "1. Move Player One's pawn off the game board" << endl;
                cout << "2. Move Player Two's pawn off the game board" << endl;
                cout << "3. Move Player Four's pawn off the game board" << endl;
                cout << "4. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 4) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p2cPosn
< 9) || (pChoice == 3 && p4cPosn < 9) ||
                       (pChoice == 4 && p1cPosn >= 9) || (pChoice == 4 && p2cPosn >= 9) ||
(pChoice == 4 && p4cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 4) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 &&
p2cPosn < 9) || (pChoice == 3 && p4cPosn < 9) ||
                         (pChoice == 4 && p1cPosn >= 9) || (pChoice == 4 && p2cPosn >= 9) ||
(pChoice == 4 && p4cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p1cPosn = 0;
                        cout << "\nPlayer 1 has been moved off the game board!" << endl;
                        cout << pOnePos[0] << endl;
                        break;
                    case 2:
                        p2cPosn = 0;
                        cout << "\nPlayer 2 has been moved off the game board!" << endl;
                        cout << pTwoPos[0] << endl;
```

```
                    break;
                case 3:
                    p4cPosn = 0;
                    cout << "\nPlayer 4 has been moved off the game board!" << endl;
                    cout << pForPos[0] << endl;
                    break;
                case 4:
                    break;
            }
        }

        //Determine whether Player 3 has won the game
        if(p3cPosn == 74)
        {
            cout << "\nPlayer 3 has won the game!" << endl;
            restart = true;
        }
    }

    //Reset the player's choice
    pChoice = 0;

    //Begin Player 4's Turn
    if(restart == false)
    {
        cout << endl;
        cout << setw(25) << "PLAYER 4'S TURN:";
        cout << "\nPress the Enter key to draw a card! ";
        cin.ignore();
        cin.get();

        //generate a random card
        card = (rand() % 11) + 1;
        cout << endl;

        //Determine the card value and apply the rules
        //Player 4 draws a "1"
        if(card == 1)
        {
            //Print the card's specific menu
            cout << "You drew a 1!" << endl;
            cout << "1. Start" << endl;
            cout << "2. Move 1 space forward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p4cPosn >= 9) || (pChoice == 2 &&
p4cPosn < 9) || (pChoice == 3))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p4cPosn >= 9) || (pChoice == 2 &&
p4cPosn < 9) || (pChoice == 3));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p4cPosn = 10;
                    cout << pForPos[p4cPosn] << endl;   //Output modified game board
                    break;
                case 2:
                    p4cPosn += 1;
                    cout << pForPos[p4cPosn] << endl;    //Output modified game board
                    break;
                case 3:
                    break;
```

```
            }
        }

        //Player 4 draws a "2"
        else if(card == 2)
        {
            //Print the card's specific menu
            cout << "You drew a 2!" << endl;
            cout << "1. Start" << endl;
            cout << "2. Move 2 spaces forward" << endl;
            cout << "3. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 3) || (pChoice == 1 && p4cPosn >= 9) || (pChoice == 1 &&
p4cPosn >= 9) || (pChoice == 3))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            }while((pChoice > 3) || (pChoice == 1 && p4cPosn >= 9) || (pChoice == 1 &&
p4cPosn >= 9) || (pChoice == 3));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p4cPosn = 10;
                    cout << pForPos[p4cPosn] << endl;   //Output modified game board
                    break;
                case 2:
                    p4cPosn += 2;
                    if(p4cPosn > 74)
                    {
                        p4cPosn = 74;
                    }
                    cout << pForPos[p4cPosn] << endl;   //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 4 draws a "3"
        else if(card == 3)
        {
            //Print the card's specific menu
            cout << "You drew a 3!" << endl;
            cout << "1. Move 3 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 && p4cPosn
>= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 &&
p4cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p4cPosn += 3;
```

```
                    if(p4cPosn > 74)
                    {
                        p4cPosn = 74;
                    }
                    cout << pForPos[p4cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 4 draws a "4"
        else if(card == 4)
        {
            //Print the card's specific menu
            cout << "You drew a 4!" << endl;
            cout << "1. Move 4 spaces backward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 && p4cPosn
>= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 &&
p4cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p4cPosn -= 4;

                    //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                    if(p4cPosn == 8)
                    {
                        p4cPosn = 68;
                    }
                    else if(p4cPosn == 7)
                    {
                        p4cPosn = 67;
                    }
                    else if(p4cPosn == 6)
                    {
                        p4cPosn = 66;
                    }
                    else if(p4cPosn == 5)
                    {
                        p4cPosn = 65;
                    }
                    else if(p4cPosn == 4)
                    {
                        p4cPosn = 64;
                    }
                    else if(p4cPosn == 3)
                    {
                        p4cPosn = 63;
                    }
                    else if(p4cPosn == 2)
                    {
                        p4cPosn = 62;
                    }
                    else if(p4cPosn == 1)
                    {
                        p4cPosn = 61;
                    }
```

```
                    else if(p4cPosn == 0)
                    {
                        p4cPosn = 60;
                    }
                    cout << pForPos[p4cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 4 draws a "5"
        else if(card == 5)
        {
            //Print the card's specific menu
            cout << "You drew a 5!" << endl;
            cout << "1. Move 5 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 && p4cPosn
>= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
            } while((pChoice > 2) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 &&
p4cPosn >= 9));

            //Execute the desired action
            switch(pChoice)
            {
                case 1:
                    p4cPosn += 5;
                    if(p4cPosn > 74)
                    {
                        p4cPosn = 74;
                    }
                    cout << pForPos[p4cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    break;
            }
        }

        //Player 4 draws a "7"
        else if(card == 6)
        {
            //Print the card's specific menu
            cout << "You drew a 7!" << endl;
            cout << "1. Move 7 spaces forward" << endl;
            cout << "2. Move Player One 7 spaces backward" << endl;
            cout << "3. Move Player Two 7 spaces backward" << endl;
            cout << "4. Move Player Three 7 spaces backward" << endl;
            cout << "5. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 5) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 && p1cPosn
< 9) ||
                  (pChoice == 3 && p2cPosn < 9) || (pChoice == 4 && p3cPosn < 9) || (pChoice
== 5 && p4cPosn >= 9))
                {
                    cout << "That's an illegal move!";
                }
                cout << "\nWhich choice would you like to make? ";
                pChoice = int_chk(choice);
```

```
                } while((pChoice > 5) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 &&
p1cPosn < 9) ||
                        (pChoice == 3 && p2cPosn < 9) || (pChoice == 4 && p3cPosn < 9) || (pChoice
== 5 && p4cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p4cPosn += 7;
                        if(p4cPosn > 74)
                        {
                            p4cPosn = 74;
                        }
                        cout << pForPos[p4cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        p1cPosn -= 7;

                        //Determine if Player 1 has moved before their safe zone
                        if(p1cPosn == 8)
                        {
                            p1cPosn = 68;
                        }
                        else if(p1cPosn == 7)
                        {
                            p1cPosn = 67;
                        }
                        else if(p1cPosn == 6)
                        {
                            p1cPosn = 66;
                        }
                        else if(p1cPosn == 5)
                        {
                            p1cPosn = 65;
                        }
                        else if(p1cPosn == 4)
                        {
                            p1cPosn = 64;
                        }
                        else if(p1cPosn == 3)
                        {
                            p1cPosn = 63;
                        }
                        else if(p1cPosn == 2)
                        {
                            p1cPosn = 62;
                        }
                        else if(p1cPosn == 1)
                        {
                            p1cPosn = 61;
                        }
                        else if(p1cPosn == 0)
                        {
                            p1cPosn = 60;
                        }
                        cout << pOnePos[p1cPosn] << endl;    //Output modified game board
                        break;
                    case 3:
                        p2cPosn -= 7;

                        //Determine if Player 3 has moved before their safe zone
                        if(p2cPosn == 8)
                        {
                            p2cPosn = 68;
                        }
                        else if(p2cPosn == 7)
                        {
                            p2cPosn = 67;
                        }
                        else if(p2cPosn == 6)
```

```
        {
            p2cPosn = 66;
        }
        else if(p2cPosn == 5)
        {
            p2cPosn = 65;
        }
        else if(p2cPosn == 4)
        {
            p2cPosn = 64;
        }
        else if(p2cPosn == 3)
        {
            p2cPosn = 63;
        }
        else if(p2cPosn == 2)
        {
            p2cPosn = 62;
        }
        else if(p2cPosn == 1)
        {
            p2cPosn = 61;
        }
        else if(p2cPosn == 0)
        {
            p2cPosn = 60;
        }
        cout << pTwoPos[p2cPosn] << endl;    //Output modified game board
        break;
    case 4:
        p3cPosn -= 7;

        //Determine if Player 4 has moved before their safe zone
        if(p3cPosn == 8)
        {
            p3cPosn = 68;
        }
        else if(p3cPosn == 7)
        {
            p3cPosn = 67;
        }
        else if(p3cPosn == 6)
        {
            p3cPosn = 66;
        }
        else if(p3cPosn == 5)
        {
            p3cPosn = 65;
        }
        else if(p3cPosn == 4)
        {
            p3cPosn = 64;
        }
        else if(p3cPosn == 3)
        {
            p3cPosn = 63;
        }
        else if(p3cPosn == 2)
        {
            p3cPosn = 62;
        }
        else if(p3cPosn == 1)
        {
            p3cPosn = 61;
        }
        else if(p3cPosn == 0)
        {
            p3cPosn = 60;
        }
        cout << pTrePos[p3cPosn] << endl;    //Output modified game board
        break;
```

```
                    case 5:
                        break;
                }
            }

            //Player 4 draws an "8"
            else if(card == 7)
            {
                //Print the card's specific menu
                cout << "You drew an 8!" << endl;
                cout << "1. Move 8 spaces forward" << endl;
                cout << "2. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 2) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 && p4cPosn
>= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 &&
p4cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p4cPosn += 8;
                        if(p4cPosn > 74)
                        {
                            p4cPosn = 74;
                        }
                        cout << pForPos[p4cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 4 draws a "10"
            else if(card == 8)
            {
                //Print the card's specific menu
                cout << "You drew a 10!" << endl;
                cout << "1. Move 10 spaces forward" << endl;
                cout << "2. Move 1 space backward" << endl;
                cout << "3. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 3) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 && p4cPosn
< 9) || (pChoice == 3 && p4cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                }while((pChoice > 3) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 && p4cPosn
< 9) || (pChoice == 3 && p4cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p4cPosn += 10;
                        if(p4cPosn > 74)
                        {
```

```
                        p4cPosn = 74;
                    }
                    cout << pForPos[p4cPosn] << endl;    //Output modified game board
                    break;
                case 2:
                    p4cPosn -= 1;

                    //Determine if Player 1 has moved before their safe zone (P1-0 - P1-8)
                    if(p4cPosn == 8)
                    {
                        p4cPosn = 68;
                    }
                    else if(p4cPosn == 7)
                    {
                        p4cPosn = 67;
                    }
                    else if(p4cPosn == 6)
                    {
                        p4cPosn = 66;
                    }
                    else if(p4cPosn == 5)
                    {
                        p4cPosn = 65;
                    }
                    else if(p4cPosn == 4)
                    {
                        p4cPosn = 64;
                    }
                    else if(p4cPosn == 3)
                    {
                        p4cPosn = 63;
                    }
                    else if(p4cPosn == 2)
                    {
                        p4cPosn = 62;
                    }
                    else if(p4cPosn == 1)
                    {
                        p4cPosn = 61;
                    }
                    else if(p4cPosn == 0)
                    {
                        p4cPosn = 60;
                    }
                    cout << pForPos[p4cPosn] << endl;    //Output modified game board
                    break;
                case 3:
                    break;
            }
        }

        //Player 4 draws an "11"
        else if(card == 9)
        {
            //Print the card's specific menu
            cout << "You drew an 11!" << endl;
            cout << "1. Move 11 spaces forward" << endl;
            cout << "2. Switch places with Player One's pawn" << endl;
            cout << "3. Switch places with Player Two's pawn" << endl;
            cout << "4. Switch places with Player Three's pawn" << endl;
            cout << "5. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 5) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 && p4cPosn
< 9) ||
                   (pChoice == 2 && p1cPosn < 9) || (pChoice == 3 && p4cPosn < 9) || (pChoice
== 3 && p2cPosn < 9) ||
                   (pChoice == 4 && p4cPosn < 9) || (pChoice == 4 && p3cPosn < 9) || (pChoice
== 4 && p4cPosn >= 9))
```

```
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 5) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 &&
p4cPosn < 9) ||
                        (pChoice == 2 && p1cPosn < 9) || (pChoice == 3 && p4cPosn < 9) || (pChoice
== 3 && p2cPosn < 9) ||
                        (pChoice == 4 && p4cPosn < 9) || (pChoice == 4 && p3cPosn < 9) || (pChoice
== 4 && p4cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p4cPosn += 11;
                        if(p4cPosn > 74)
                        {
                            p4cPosn = 74;
                        }
                        cout << pForPos[p4cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        if(p4cPosn >= 15 && p1cPosn >= 15)
                        {
                            temp = p4cPosn;
                            p4cPosn = p1cPosn - 15;
                            p1cPosn = temp + 15;
                        }
                        else if(p4cPosn >= 15 && p1cPosn <= 15)
                        {
                            temp = p4cPosn;
                            p4cPosn = 60 + p1cPosn - 15;
                            p1cPosn = 15 - (60 - temp);
                        }
                        else if(p4cPosn <= 15 && p1cPosn <= 15)
                        {
                            temp = p4cPosn;
                            p4cPosn = 60 + p1cPosn - 15;
                            p1cPosn = temp + 15;
                        }
                        else if(p4cPosn <= 15 && p1cPosn >= 15)
                        {
                            p4cPosn = p1cPosn - 15;
                            p1cPosn = p1cPosn - (p4cPosn - 10);
                        }

                        //Determine if Player 4 has moved before their safe zone
                        if(p4cPosn == 8)
                        {
                            p4cPosn = 68;
                        }
                        else if(p4cPosn == 7)
                        {
                            p4cPosn = 67;
                        }
                        else if(p4cPosn == 6)
                        {
                            p4cPosn = 66;
                        }
                        else if(p4cPosn == 5)
                        {
                            p4cPosn = 65;
                        }
                        else if(p4cPosn == 4)
                        {
                            p4cPosn = 64;
                        }
                        else if(p4cPosn == 3)
                        {
```

```
            p4cPosn = 63;
        }
        else if(p4cPosn == 2)
        {
            p4cPosn = 62;
        }
        else if(p4cPosn == 1)
        {
            p4cPosn = 61;
        }
        else if(p4cPosn == 0)
        {
            p4cPosn = 60;
        }

        //Determine if Player 1 has moved before their safe zone
        if(p1cPosn == 8)
        {
            p1cPosn = 68;
        }
        else if(p1cPosn == 7)
        {
            p1cPosn = 67;
        }
        else if(p1cPosn == 6)
        {
            p1cPosn = 66;
        }
        else if(p1cPosn == 5)
        {
            p1cPosn = 65;
        }
        else if(p1cPosn == 4)
        {
            p1cPosn = 64;
        }
        else if(p1cPosn == 3)
        {
            p1cPosn = 63;
        }
        else if(p1cPosn == 2)
        {
            p1cPosn = 62;
        }
        else if(p1cPosn == 1)
        {
            p1cPosn = 61;
        }
        else if(p1cPosn == 0)
        {
            p1cPosn = 60;
        }
        cout << pForPos[p4cPosn] << endl;
        cout << endl;
        cout << pOnePos[p1cPosn] << endl;
        break;
    case 3:
        if(p4cPosn >= 15 && p2cPosn >= 15)
        {
            temp = p4cPosn;
            p4cPosn = p2cPosn - 15;
            p2cPosn = temp + 15;
        }
        else if(p4cPosn >= 15 && p2cPosn <= 15)
        {
            temp = p4cPosn;
            p4cPosn = 60 + p2cPosn - 15;
            p2cPosn = 15 - (60 - temp);
        }
        else if(p4cPosn <= 15 && p2cPosn <= 15)
        {
```

```
    temp = p4cPosn;
    p4cPosn = 60 + p2cPosn - 15;
    p2cPosn = temp + 15;
}
else if(p4cPosn <= 15 && p2cPosn >= 15)
{
    p4cPosn = p2cPosn - 15;
    p2cPosn = p2cPosn - (p4cPosn - 10);
}

//Determine if Player 4 has moved before their safe zone
if(p4cPosn == 8)
{
    p4cPosn = 68;
}
else if(p4cPosn == 7)
{
    p4cPosn = 67;
}
else if(p4cPosn == 6)
{
    p4cPosn = 66;
}
else if(p4cPosn == 5)
{
    p4cPosn = 65;
}
else if(p4cPosn == 4)
{
    p4cPosn = 64;
}
else if(p4cPosn == 3)
{
    p4cPosn = 63;
}
else if(p4cPosn == 2)
{
    p4cPosn = 62;
}
else if(p4cPosn == 1)
{
    p4cPosn = 61;
}
else if(p4cPosn == 0)
{
    p4cPosn = 60;
}

//Determine if Player 2 has moved before their safe zone
if(p2cPosn == 8)
{
    p2cPosn = 68;
}
else if(p2cPosn == 7)
{
    p2cPosn = 67;
}
else if(p2cPosn == 6)
{
    p2cPosn = 66;
}
else if(p2cPosn == 5)
{
    p2cPosn = 65;
}
else if(p2cPosn == 4)
{
    p2cPosn = 64;
}
else if(p2cPosn == 3)
{
```

```
            p2cPosn = 63;
        }
        else if(p2cPosn == 2)
        {
            p2cPosn = 62;
        }
        else if(p2cPosn == 1)
        {
            p2cPosn = 61;
        }
        else if(p2cPosn == 0)
        {
            p2cPosn = 60;
        }
        cout << pForPos[p4cPosn] << endl;
        cout << endl;
        cout << pTwoPos[p2cPosn] << endl;
        break;
    case 4:
        if(p4cPosn >= 15 && p3cPosn >= 15)
        {
            temp = p4cPosn;
            p4cPosn = p3cPosn - 15;
            p3cPosn = temp + 15;
        }
        else if(p4cPosn >= 15 && p3cPosn <= 15)
        {
            temp = p4cPosn;
            p4cPosn = 60 + p3cPosn - 15;
            p3cPosn = 15 - (60 - temp);
        }
        else if(p4cPosn <= 15 && p3cPosn <= 15)
        {
            temp = p4cPosn;
            p4cPosn = 60 + p3cPosn - 15;
            p3cPosn = temp + 15;
        }
        else if(p4cPosn <= 15 && p3cPosn >= 15)
        {
            p4cPosn = p3cPosn - 15;
            p3cPosn = p3cPosn - (p4cPosn - 10);
        }

        //Determine if Player 4 has moved before their safe zone
        if(p4cPosn == 8)
        {
            p4cPosn = 68;
        }
        else if(p4cPosn == 7)
        {
            p4cPosn = 67;
        }
        else if(p4cPosn == 6)
        {
            p4cPosn = 66;
        }
        else if(p4cPosn == 5)
        {
            p4cPosn = 65;
        }
        else if(p4cPosn == 4)
        {
            p4cPosn = 64;
        }
        else if(p4cPosn == 3)
        {
            p4cPosn = 63;
        }
        else if(p4cPosn == 2)
        {
            p4cPosn = 62;
```

```
                    }
                    else if(p4cPosn == 1)
                    {
                        p4cPosn = 61;
                    }
                    else if(p4cPosn == 0)
                    {
                        p4cPosn = 60;
                    }

                    //Determine if Player 3 has moved before their safe zone
                    if(p3cPosn == 8)
                    {
                        p3cPosn = 68;
                    }
                    else if(p3cPosn == 7)
                    {
                        p3cPosn = 67;
                    }
                    else if(p3cPosn == 6)
                    {
                        p3cPosn = 66;
                    }
                    else if(p3cPosn == 5)
                    {
                        p3cPosn = 65;
                    }
                    else if(p3cPosn == 4)
                    {
                        p3cPosn = 64;
                    }
                    else if(p3cPosn == 3)
                    {
                        p3cPosn = 63;
                    }
                    else if(p3cPosn == 2)
                    {
                        p3cPosn = 62;
                    }
                    else if(p3cPosn == 1)
                    {
                        p3cPosn = 61;
                    }
                    else if(p3cPosn == 0)
                    {
                        p3cPosn = 60;
                    }
                    cout << pForPos[p4cPosn] << endl;
                    cout << endl;
                    cout << pTrePos[p3cPosn] << endl;
                    break;
                case 5:
                    break;
            }
        }

        //Player 4 draws a "12"
        else if(card == 10)
        {
            //Print the card's specific menu
            cout << "You drew a 12!" << endl;
            cout << "1. Move 12 spaces forward" << endl;
            cout << "2. Skip turn" << endl;

            //Check for legal move
            do
            {
                if((pChoice > 2) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 && p4cPosn
>= 9))
                {
                    cout << "That's an illegal move!";
```

```
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 2) || (pChoice == 1 && p4cPosn < 9) || (pChoice == 2 &&
p4cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p4cPosn += 12;
                        if(p4cPosn > 74)
                        {
                            p4cPosn = 74;
                        }
                        cout << pForPos[p4cPosn] << endl;    //Output modified game board
                        break;
                    case 2:
                        break;
                }
            }

            //Player 4 draws a "Sorry!" card
            else
            {
                //Print the card's specific menu
                cout << "You drew a \"Sorry!\" Card!" << endl;
                cout << "1. Move Player One's pawn off the game board" << endl;
                cout << "2. Move Player Two's pawn off the game board" << endl;
                cout << "3. Move Player Three's pawn off the game board" << endl;
                cout << "4. Skip turn" << endl;

                //Check for legal move
                do
                {
                    if((pChoice > 4) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 && p2cPosn
< 9) || (pChoice == 3 && p3cPosn < 9) ||
                       (pChoice == 4 && p1cPosn >= 9) || (pChoice == 4 && p2cPosn >= 9) ||
(pChoice == 4 && p3cPosn >= 9))
                    {
                        cout << "That's an illegal move!";
                    }
                    cout << "\nWhich choice would you like to make? ";
                    pChoice = int_chk(choice);
                } while((pChoice > 4) || (pChoice == 1 && p1cPosn < 9) || (pChoice == 2 &&
p2cPosn < 9) || (pChoice == 3 && p3cPosn < 9) ||
                        (pChoice == 4 && p1cPosn >= 9) || (pChoice == 4 && p2cPosn >= 9) ||
(pChoice == 4 && p3cPosn >= 9));

                //Execute the desired action
                switch(pChoice)
                {
                    case 1:
                        p1cPosn = 0;
                        cout << "\nPlayer 1 has been moved off the game board!" << endl;
                        cout << pOnePos[0] << endl;
                        break;
                    case 2:
                        p2cPosn = 0;
                        cout << "\nPlayer 2 has been moved off the game board!" << endl;
                        cout << pTwoPos[0] << endl;
                        break;
                    case 3:
                        p3cPosn = 0;
                        cout << "\nPlayer 3 has been moved off the game board!" << endl;
                        cout << pTrePos[0] << endl;
                        break;
                    case 4:
                        break;
                }
            }
```

```
            //Determine whether Player 4 has won the game
            if(p4cPosn == 74)
            {
                cout << "\nPlayer 4 has won the game!" << endl;
            }
        }

        //Reset the player's choice
        pChoice = 0;
        cin.clear();
        cin.ignore();

    //Exit or repeat the while loop
    }
}

/**
 * @brief Integer Check
 *
 * This is the Input Validation function.
 * It makes sure all values passed are positive integers only.
 *
 * @return "number", the input value
 */
int int_chk(int number)
{
    //Check for input
    while(!(cin >> number) || number < 1)
    {
        cout << "ERROR: Invalid Input\n"
             "Please enter a valid integer: ";
        cin.clear();
        cin.ignore(1e9, '\n');
    }

    //Return choice after it has been validated
    return(number);
}
```