Project 1

<9 Hours, 9 Persons, 9 Doors>

CSC5-42829

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**Introduction**

Title: 9 Hours, 9 Persons, 9 Doors

This is a puzzle game based on the Nintendo DS game 9 Hours, 9 Persons, 9 Doors. It is a game that encourages the player to make certain decisions and come to a certain ending. Although there are multiple endings, only one decision leads to the true ending. The player is prompted with a number of choices throughout the story. Whatever choice they make will affect their ending. There are choices where the player can go back, but there are also choices where it is an instant game over. The choices are up to the player. However, as the player approaches the true ending, the decisions get harder. Once the player has achieved the true ending, the program terminates itself.

**Summary**

Project size: 400+ lines

The number of variables: 6

The number of methods: 7

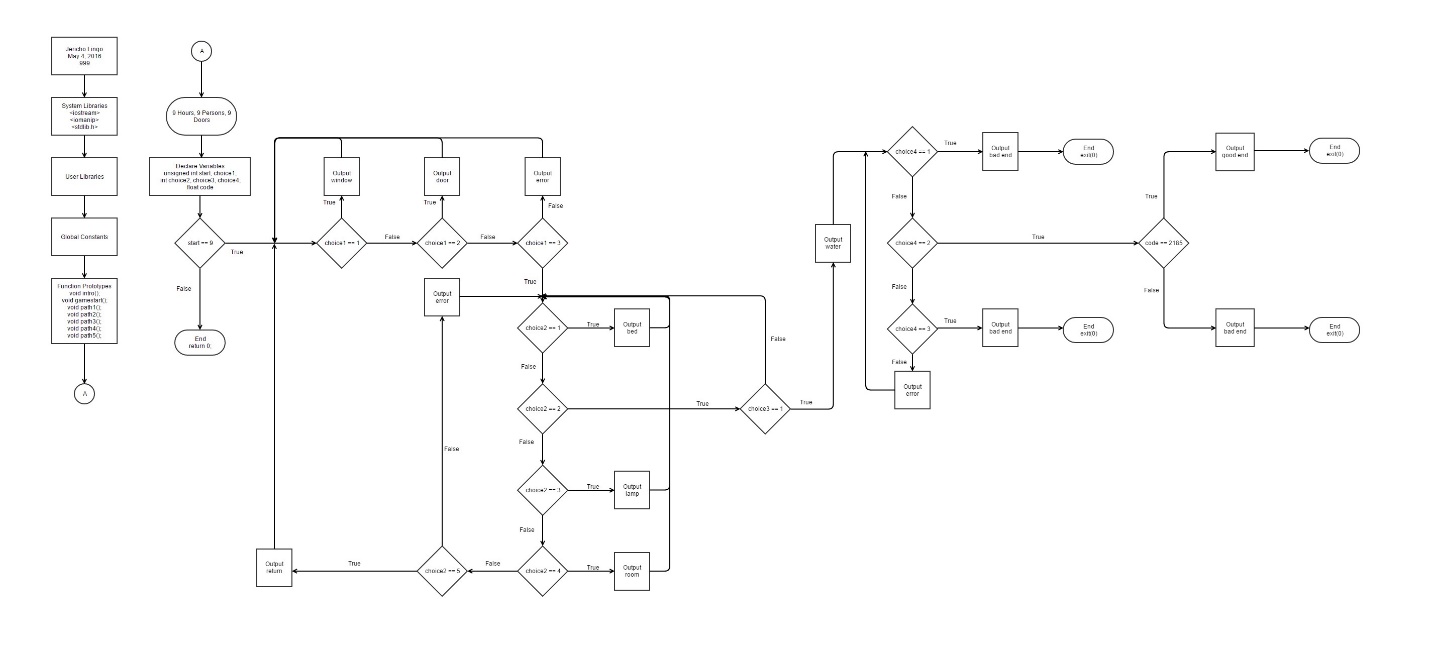
This project includes certain concepts based on reading Savitch’s Problem Solving with C++ starting from Chapter One through Chapter Five. Unfortunately, I could not utilize the use of Boolean statements nor math statements as this game does not require that much logic in math.

This project took nearly about a week and a half to complete. I tried to utilize more concepts, but all I could implement were more simple lines of code such as loops and if statements as well as I/O stream. Also, I wanted to make sure that every input counts. Therefore, whether it detects a negative number or a random character such as “a” or “X”, it will always output an error and correct the player to make a valid input. Other than that, the logic is very simple and basically falls within branches of other scenarios.

**Description**

The main point of this program is to give outputs based on player inputs and lead to many other statements.

**Flowchart (Pseudo Code)**



**Major variables**

|  |  |  |  |
| --- | --- | --- | --- |
| **Type** | Variable Name | Description | Location |
| Unsigned Integer | start | Player starts game | start() |
|  | choice1 | Choice for first outcome | path1() |
| Integer | choice2 | Choice for second outcome | path2() |
|  | choice3 | Choice for third outcome | path3() |
|  | choice4 | Choice for fourth outcome | path4() |
| Float | code | Code to input on keypad | path5() |

**References**

1. Textbook (Walter Savitch: Problem Solving with C++)

2. cplusplus.com

3. 9 Hours, 9 Persons, 9 Doors wikia

**Program**

// 9 Hours, 9 Persons, 9 Doors

//System Libraries

#include <iostream>

#include <iomanip>

#include <stdlib.h>

using namespace std;

//Function Prototypes

void intro();

void gamestart();

void path1();

void path2();

void path3();

void path4();

void path5();

//Execution Begins Here!

int main(int argc, char\*\* argv) {

//Declare variables

unsigned int start; //Variable for game start

//General Menu Format

do {

//Display the selection

intro();

//Read the choice

cin >> start;

//Code to avoid infinite loop after a character is introduced

//Although there is no loop, it's still here just in case.

cin.clear();

cin.ignore();

//Solve a problem that has been chosen.

switch (start) {

case 9: gamestart(), path1(); //Prompt player input to begin game

break;

default: //Terminates game if other value or character is inputted

{

cout << "Game terminated." << endl;

return 0;

}

};

} while (1);

return 0;

}

//Intro

void intro() {

//Introduce the game

cout << setfill('-') << setw(17) << "-" << endl;

cout << " 999 999 999 " << endl;

cout << "9 9 9 9 9 9 " << endl;

cout << "9 9 9 9 9 9 " << endl;

cout << " 999 999 999 " << endl;

cout << " 9 9 9 " << endl;

cout << " 99 99 99 " << endl;

cout << setfill('-') << setw(17) << "-" << endl;

cout << "Welcome to 9 Hours, 9 Persons, 9 Doors!" << endl;

cout << "This is a VN (Visual Novel) based on the popular DS game, '9 Hours, 9 Persons, 9 Doors'." << endl;

cout << "This version of 999 (abbreviated for simplicity's sake) is a spoiler-free and cut-down version of the game." << endl;

cout << "Please play the full game that is available for the Nintendo DS and iOS." << endl;

cout << "To learn more about this game, please read the enclosed writeup or look it up on Google." << endl;

cout << endl << endl;

//Execute switch statement for starting the game

cout << "Type '9' to begin. Otherwise, input any other key to exit." << endl << endl;

}

void gamestart() {

//Start game inside the room

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You wake up trapped inside a room, unable to remember a thing." << endl;

cout << "The room appears to be a bedroom, as it has a bed, a small drawer with a lamp, a small window," << endl;

cout << "and a door to what appears to be the exit." << endl;

cout << setfill('-') << setw(120) << "-" << endl;

}

//Begin game

void path1() {

{

//Declare choice variable

unsigned int choice1; //Integer for 1st choice, unsigned to avoid 2 accidental inputs when inputting a negative number

//Prompt player for choice with a for loop.

for (;;) {

//Give choices for player

cout << "What would you like to do?" << endl;

cout << "Type '1' to look through the window." << endl;

cout << "Type '2' to attempt to open the door." << endl;

cout << "Type '3' to examine the room." << endl;

cout << endl;

//Assign choice1 for upcoming switch statement

cin >> choice1;

//Code to avoid infinite loop after a character is introduced

cin.clear();

cin.ignore();

//Output for looking through the window

if (choice1 == 1) {

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You look through the window." << endl;

cout << "It is too dark to see anything. It may actually look like it's deliberately dark." << endl;

cout << "You turn back and think for your next choice." << endl;

cout << setfill('-') << setw(120) << "-" << endl;

}//Output for attempting to open the door

else if (choice1 == 2) {

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You attempt to open the door." << endl;

cout << "The door is locked tight. There appears to be a keypad next to it." << endl;

cout << "You inputted random numbers, but none of them worked." << endl;

cout << "You take note that it requires a four digit code." << endl;

cout << "You turn back and think for your next choice." << endl;

cout << setfill('-') << setw(120) << "-" << endl;

}//Output for examining the room

else if (choice1 == 3) {

path2();

}//Output for incorrect input

else {

cout << endl;

cout << "Error! Invalid input. Please type the appropriate choice." << endl;

cout << endl;

}

};

}

}

//Examine room

void path2() {

//Declare choice variable

int choice2; //Integer for 2nd choice

//Prompt player for choice with a do-while loop.

do {

//Give choices for player

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You examine the room." << endl;

cout << setfill('-') << setw(120) << "-" << endl;

cout << "What would you like to examine?" << endl;

cout << "Type '1' to examine the bed." << endl;

cout << "Type '2' to examine the drawer." << endl;

cout << "Type '3' to examine the lamp." << endl;

cout << "Type '4' to examine the room itself." << endl;

cout << "Otherwise, type '5' to quit investigating the room." << endl;

cout << endl;

//Assign choice2 for upcoming if-else statement

cin >> choice2;

//Code to avoid infinite loop after a character is introduced

cin.clear();

cin.ignore();

//Output for examining the bed

if (choice2 == 1) {

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You examine the bed." << endl;

cout << "It looks like it hasn't been used for a while." << endl;

cout << "There doesn't seem to be anything of interest. You examine other objects." << endl;

}//Output for examining the drawer

else if (choice2 == 2) {

path3();

}//Output for examining the lamp

else if (choice2 == 3) {

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You examine the lamp." << endl;

cout << "It was turned on when you first woke up." << endl;

cout << "Nothing seems to be off. You examine other objects." << endl;

}//Output for examining the room

else if (choice2 == 4) {

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You examine the room itself." << endl;

cout << "The room is rather small and only accommodates for one person." << endl;

cout << "It feels as though it was meant for a crew member of some sort." << endl;

cout << "Nothing seems to catch your eye. You examine other objects." << endl;

}//Output for stopping the search

else if (choice2 == 5) {

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You decide not to investigate the room." << endl;

cout << setfill('-') << setw(120) << "-" << endl;

path1();

}//Output for incorrect input

else {

cout << endl;

cout << "Error! Invalid input. Please type the appropriate choice." << endl;

cout << endl;

}

} while (1);

}

//Examine drawer

void path3() {

//Declare choice variable

int choice3; //Integer for 3rd choice

//Examining the drawer

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You examine the drawer." << endl;

cout << "There appears to be a note." << endl;

cout << setfill('-') << setw(120) << "-" << endl;

cout << "Read the note?" << endl;

cout << "Type '1' to read. Otherwise, input any other key to leave it." << endl;

cout << endl;

//Prompt player for choice

cin >> choice3;

//Code to avoid infinite loop after a character is introduced

//Although there is no loop, it's still here just in case.

cin.clear();

cin.ignore();

//Output for reading the note

if (choice3 == 1) {

path4();

}//Output for leaving the note

else {

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You decide not to read the note." << endl;

cout << "With that in mind, you decide to examine other objects." << endl;

}

}

//Reading the note

void path4() {

//Declare choice variable

int choice4; //Integer for 4th choice

//Reading the note

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You read the note." << endl;

cout << "The note reads:" << endl;

cout << endl;

cout << "<----" << endl;

cout << "'5812'." << endl;

cout << endl;

cout << "You remember the sequence of numbers just in case." << endl;

cout << setfill('-') << setw(120) << "-" << endl;

cout << "Suddenly, a loud rush of water can be heard from the outside." << endl;

cout << "The rushing water gets louder and louder and suddenly..." << endl;

cout << endl;

cout << "CRASH!" << endl;

cout << endl;

cout << "The water crashes through the small window." << endl;

cout << "The room begins to flood with water." << endl;

cout << "You panic, but you try to stay calm at the same time." << endl;

cout << setfill('-') << setw(120) << "-" << endl;

//Prompt player for choice with a while loop

while (1) {

//Give choices for player

cout << "Seek a way out! What is your next course of action?" << endl;

cout << "Type '1' to close the rushing water." << endl;

cout << "Type '2' to approach the door." << endl;

cout << "Type '3' to do nothing." << endl;

cout << endl;

//Prompt player for choice

cin >> choice4;

//Code to avoid infinite loop after a character is introduced

cin.clear();

cin.ignore();

//Output for plugging the rushing water

if (choice4 == 1) {

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You attempt to close the rushing water." << endl;

cout << "You try to use the bed as a blockade, however the bed is too heavy for you to lift." << endl;

cout << "You try to use your body, however the water pressure is too powerful." << endl;

cout << "The water fills up the room completely." << endl;

cout << "You are completely submerged in the water." << endl;

cout << "You start to lose air and begin drowning." << endl;

cout << "You hear a faint voice." << endl;

cout << "'Don't fight it, avoid it...' said the faint voice." << endl;

cout << "You lose consciousness due to lack of air." << endl;

cout << setfill('-') << setw(120) << "-" << endl;

cout << endl;

cout << "GAME OVER." << endl;

cout << endl;

exit(0);

}

//Output for approaching the door

if (choice4 == 2) {

path5();

}

//Output for doing nothing

if (choice4 == 3) {

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You do nothing. You sit on the bed and wait for death." << endl;

cout << "The water fills up the room completely." << endl;

cout << "You are completely submerged in the water." << endl;

cout << "You start to lose air and begin drowning." << endl;

cout << "You hear a faint voice." << endl;

cout << "'Believe in yourself...' said the faint voice." << endl;

cout << "You lose consciousness due to lack of air." << endl;

cout << setfill('-') << setw(120) << "-" << endl;

cout << endl;

cout << "GAME OVER." << endl;

cout << endl;

exit(0);

}

if (choice4 <= 0 || choice4 >= 4) {

cout << endl;

cout << "Error! Invalid input. Please type the appropriate choice." << endl;

cout << endl;

}

}

}

//Code for keypad

void path5() {

//Assign code for ternary operator

float code;

//Approaching the door

cout << setfill('-') << setw(120) << "-" << endl;

cout << "You approach the door." << endl;

cout << "The door is still locked tight." << endl;

cout << "You remember that there is a keypad next to the door." << endl;

cout << "You attempt to input a four digit code." << endl;

cout << setfill('-') << setw(120) << "-" << endl;

cout << "What four digit code do you input?" << endl;

cout << endl;

//Prompt player for choice

cin >> code;

//Code to avoid infinite loop after a character is introduced

//Although there is no loop and it ends regardless based on the wrong choice, it's still here just in case.

cin.clear();

cin.ignore();

//Output for correct code

(code == 2185) ?

cout << setfill('-') << setw(120) << "-" << endl <<

"ACCEPTED" << endl <<

"A click can be heard from the door." << endl <<

"The door is now unlocked and you open the door." << endl <<

"You escape the room along with the rushing water behind you." << endl <<

"You continue to run through the hall and approach some stairs going up." << endl <<

"You climb the stairs in attempt to escape the rushing water." << endl <<

"You stop on what appears to be the second floor." << endl <<

"You check behind you to see if the water is still flowing." << endl <<

"The water stops on the brim of the last stair approaching the second floor." << endl <<

"You sigh in relief and lay down." << endl <<

setfill('-') << setw(120) << "-" << endl << endl <<

"YOU FOUND IT!" << endl << endl <<

setfill('-') << setw(120) << "-" << endl <<

"Congratulations! You've completed the game!" << endl <<

"Once again, this was a cut-down version of the game so it's not fully complete." << endl <<

"Please check out the full game of 999 by purchasing it for the Nintendo DS or iOS." << endl <<

"Thank you for playing this game!" << endl :

//Output for incorrect code

cout << setfill('-') << setw(120) << "-" << endl <<

"DENIED" << endl <<

"The water rushes to the keypad and shorts it out." << endl <<

"You push the numbers, but no response." << endl <<

"The water fills up the room completely." << endl <<

"You are completely submerged in the water." << endl <<

"You start to lose air and begin drowning." << endl <<

"You hear a faint voice." << endl <<

"'Enter in reverse order...' said the faint voice." << endl <<

"You lose consciousness due to lack of air." << endl <<

setfill('-') << setw(120) << "-" <<

endl << endl <<

"GAME OVER." << endl;

exit(0);

}