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Programming 1

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Midterm

Game Title: Date Night

Premise: You (the protagonist) go out on a restaurant date. Unbeknownst to you, your date is a serial killer. When he excuses himself to go to the bathroom, the TV plays a news broadcast warning viewers to keep a look out for a serial killer on the loose. They show a photo of the man you are on a date with. You must make the right choices to prevent him from discovering that you know his true identity. You must avoid getting hurt and find a way to escape before the night is through.

Characters and Items: The **player** makes choices that control the direction of the game. The **Villain (Tom)** asks questions that guide the player throughout the game. He also drops hints for the player that will help them complete the game. The **key** is an item that will allow the player to open the cabinet, which gives them access to the safe. The **fish flakes** is an item that the player will receive after opening the safe.

Events: **Act 1** takes place at the restaurant. It is an introduction to the storyline and reveals Tom's Serial Killer status to the player. The second choice that Tom gives to the player (asking them to choose between steak and salmon) will give the player a hint depending on what the choose. Choosing salmon will prompt Tom to reveal his allergy to seafood, a piece of knowledge which will help the player know how to use the fish flakes in Act 3.

Act 2 gives the player more chances to influence the storyline. The first choice in Act 2 asks the player to choose between 2 different cotton candy colors. The number "2" is highlighted as a hint to the player; it is in fact the first digit of the secret code for the safe. Choosing the green cotton candy will increase Tom's anger meter as green is the opposite of his favorite color, red. The next choice the player faces will ask them if they want to take the short route or the scenic route. Taking the short route will eliminate the player's chance of opening the cabinet and reaching the safe. Taking the scenic route will hint to the player that "1" and "2" are the next digits needed to open the safe. This choice will also give the player an opportunity to get the key. The final choice in Act 2 is whether or not the player wants to enter Tom's apartment and go home. If the player chooses to go home and the anger meter is less than 2, Tom will act like they are joking and usher them inside. If the player chooses to go home and the anger meter is 2, Tom will kidnap the player and they will receive a game over. The player will then be asked if they wanted to end the game or return to the checkpoint. Returning to the checkpoint will take them back to the scene at Tom's front door.

Act 3 opens with a hint to the player that Tom will put chloroform in their drink (the player's character will comment on a faint sweet smell). When Tom excuses himself to the kitchen to make the drinks, the player will have the option to stay seated or explore the living room. Staying seated will eliminate the player’s chance to get the fish flakes. Exploring the living room will lead the player to a cabinet with 4 skeletons on it. The number “4” is highlighted to hint to the player that it is the final digit needed to open the safe. Once the player inputs the correct code, ‘FishFlakes” will be added to their inventory. The next choice will ask the player what to do with their drink. If they drink it, the player will go unconscious and lose the game. They will

again be asked if they want to end the game or return to the checkpoint. Returning to the checkpoint will restart Act 3. If they "accidentally' spill the drink, Tom will go to the bathroom and the player will have the opportunity to pour the FishFlakes into his drink. Once Tom returns, he will sip his drink. If it has FishFlakes in it, he will faint and the player will be able to run away. If the player has not recovered the FishFlakes, their storyline will look a bit different. The player should choose to spill the drink so Tom can leave to the bathroom. They will then receive the option to search for the cellphone in his jacket. The player will then call the police by inputting 911, and then return to their seat. The player will slowly sip their drink and stall Tom until the police arrive. They will arrive just in time to save you and arrest him.

There are **Three Endings** that the player can reach. The first can happen at the end of Act 2, if the player refuses to enter the house while Tom's Anger Level has also increased to 2. This ending is considered "Game Over". The second ending can happen at the end of Act 3 if the player has collected the fish flakes. They will pour the flakes into Tom's drink, which will cause him to have a severe allergic reaction that knocks him out. The player can then leave through the door. This is considered a secret "Good Ending" because the player will have had to take the scenic route in Act 2. The third ending can be achieved in Act 3 by spilling the drink on Tom and calling the police.

The **End** recap will display the amount of items the player collected, as well as the items that player failed to collect. It will also display the number of times that the player got a game over.

Variables that impact Gameplay: Inventory (whether or not you get the key and the fish flakes -> impacts which ending you can achieve), AngerLevel (impacts how Tom reacts to you), Choices

(the paths chosen by the player impact which dialogues and scenes will be displayed. Also impacts which items can be attained).

Inheritance, Polymorphism, and Encapsulation: My project demonstrates my knowledge of these topics. **Inheritance** is when a class shares properties and methods from another "base" class. An example of this would be if we had a "Rose" class and a "Sunflower" class, which can both be derived from a base "Flower" class through inheritance (because they are both flower types.) My project uses this concept in the Program and Game classes. The Program class derives from the Game class, and it is capable of accessing all public members of the Game class. **Polymorphism** is when an object has different behaviors in different conditions. It gives us the ability to perform one action in a variety of ways. The two main types of Polymorphism are "Compile-Time" (also known as Static Polymorphism) and "Runtime" (also known as Dynamic Method Polymorphism). Compile-Time is done through Function Overloading or Operator Overloading. Runtime is done through Method Overriding. My project uses the concept of Compile-Time Polymorphism through Method Overloading. In my Villain class, I've overloaded a method that tracks Tom's AngerLevel, and eventually influences his behavior when it gets to a certain number. **Encapsulation** is when attributes, methods and other data are grouped together as a single "unit". It controls how much accessibility code outside of this group has to the code within. Information that won't be used outside of this group can be hidden to limit confusion. An example of this is setting the access modifier to "Public" or "Private". My project uses this concept in every class. All of my classes (except the Program class) are set to public, because I call a variety of information into different classes. Making all the information in a class "Public" allowed me to easily access methods and other members between classes .