**Final Project – Hunt the Wumpus**

My final project is a game. The game is called “Hunt the Wumpus”, it was originally made by Gregory Yob in 1973 using BASIC. This game stood out among others like it because it used an unorthodox mapping system: the map was a system of rooms arranged like the vertices of a dodecahedron (each one having three other nodes to connect to). The game has been remade in various languages and with augmented features. The original is a text based game and that is how I will make it, though mine will vary somewhat from the original.

For testing purposes, the game entities will be static, not randomized. A map with locations of the entities will be attached.

**About the Game:**

Your mission, should you chose to accept it, is to hunt the Wumpus. The Wumpus lives in a cave system with 20 rooms. Each room has three tunnels connecting to other rooms.

HAZARDS:

* Bottomless Pits - Two rooms have bottomless pits in them.
  + If you enter, you fall into the pit (and lose!)
* Giant Bats - Two other rooms have giant bats.
  + If you enter, the bat grabs you and deposits you in another room at random. (Which might be troublesome.)

WUMPUS:

The Wumpus is not bothered by the hazards (he has sucker feet and is too big for a bat to lift). Usually he is asleep. Two things wake him up: entering his room and shooting an arrow.

If you wake the Wumpus, he will eat you (and you lose!)

YOU:

* Each turn you will have the option to move or to shoot a crooked arrow
* MOVING: you may take any tunnel connecting to your current room
  + (be warned, not every room is safe)
* ARROWS: You have ONE arrow (DON’T MISS).
  + Your arrow can be shot into any adjacent room.
  + If the arrow hits the Wumpus, you win.
  + If you miss, you will wake the Wumpus and he will eat you!

WARNINGS:

* You will be given warning messages when you approach hazards. The console will output the following when a hazard is in an adjacent room:
  + Wumpus: “You smell the unmistakable stench of the Wumpus”
  + Bat: “You hear the flapping of large wings”
  + Pit: “You feel an ominous breeze”

**Implementation:**

The program will start with a standard title.

The program will read in and store statistics from previous games:

* Number of games played
* Number of Victories
  + Percentage of this outcome
* Number of deaths by Wumpus
  + Percentage of this outcome
* Number of deaths by Bottomless Pit
  + Percentage of this outcome
* Number of actions in shortest game
* Number of actions in longest game
* Average number of actions per game

The program will use a switch case menu to offer users the following options:

* About the Game
  + Print text to console
* Instructions
  + Print text to console
* Statistics
  + Print stats to console
  + Prompt for printing stats to file
* Play
  + Warn that exiting program early will not save statistics
  + Start game loop:
    - Print game state
      * Win/lose
      * Current room
      * Exits
      * Warnings/Hints
    - Prompt for game action
    - Move player/shoot arrow
    - Check for win/lose conditions
  + Update statistics with game outcomes
* Save Statistics and Exit
  + Output stats to file
  + Exit