GAME()
flowchart

(as of November 20, 2024)

Victor Lum
A01418439

START

Print welcome message
and game instructions

Set variable rows
equal to 5

Set variable
columns equal
to 5

Assign variable board equal to
MAKE_BOARD(rows, columns)

Assign variable character equal to
MAKE_CHARACTER()

Set variable
achieved_goal
equal to False

False

IS_ALIVE(character) is True
(character has at least 1 HP
in "Current HP")

True

```
                                    │
                                    ▼
              ╱──────────────────────────────────────╲
             ╱   Variable achieved_goal is True        ╲         True
            ╱    (character has achieved the goal        ╲──────────────────────►
            ╲    of making it to the board's             ╱
             ╲   maximum coordinates                    ╱
              ╲──────────────────────────────────────╱
                                    │
                                    │ False
                                    ▼
              ┌──────────────────────────────────────┐
              │  Describe the character's current     │◄──────────
              │  location using                        │
              │  DESCRIBE_CURRENT_LOCATION(board,      │
              │  character)                            │
              └──────────────────────────────────────┘
                                    │
                                    ▼
              ┌──────────────────────────────────────┐
              │  Assign variable direction equal to   │
              │  GET_USER_CHOICE()                     │
              └──────────────────────────────────────┘
                                    │
                                    ▼
              ┌──────────────────────────────────────┐
              │  Assign variable valid_move equal to  │
              │  VALIDATE_MOVE(board, character,       │
              │  direction)                            │
              └──────────────────────────────────────┘
                                    │
                                    ▼
              ╱──────────────────────────────────────╲
             ╱                                          ╲   False   ╱─────────────╲
            ╱   Variable valid_move is True              ╲─────────►│ Print "Not a valid
            ╲   (player's move is valid on the board)    ╱          │ move. You are
             ╲                                          ╱           │ going out of the
              ╲──────────────────────────────────────╱             │ game board!"
                                    │                                ╲─────────────╱
                                    │ True
                                    ▼
              ┌──────────────────────────────────────┐
              │  Move character using                 │
              │  MOVE_CHARACTER(character)            │
              └──────────────────────────────────────┘
                                    │
                                    ▼
            ╱────────────────────────────────────────────╲
           ╱   Print character's current location using   ╱
          ╱  DESCRIBE_CURRENT_LOCATION(board, character) ╱
          ╲────────────────────────────────────────────╱
```

```
                           ┌─────────────┐
                           │   Print a   │
                           │  blank line │
                           └─────────────┘
                                  │
                                  ▼
                        ┌──────────────────────┐
                        │ Get trivia topics using │
                        │    TRIVIA_TOPICS()    │
                        └──────────────────────┘
                                  │
                                  ▼
                    ┌──────────────────────────────┐
                    │ Randomly choose a trivia topic based │
                    │ on the character's current location's │
                    │    trivia difficulty level using     │
                    │     CHOOSE_TRIVIA_QUESTION()         │
                    └──────────────────────────────┘
                                  │
                                  ▼
                    ┌──────────────────────────────┐
                    │ Ask the chosen trivia question using │
                    │       TRIVIA_QUESTION()              │
                    └──────────────────────────────┘
                                  │
                                  ▼
                    ┌──────────────────────────────┐
                    │  Check if character can level up using │
                    │       IS_LEVEL_UP(character)         │
                    └──────────────────────────────┘
                                  │
                                  ▼
```

Print a blank line

Get trivia topics using TRIVIA_TOPICS()

Randomly choose a trivia topic based on the character's current location's trivia difficulty level using CHOOSE_TRIVIA_QUESTION()

Ask the chosen trivia question using TRIVIA_QUESTION()

Check if character can level up using IS_LEVEL_UP(character)

False

Assign variable achieved_goal equal to CHECK_IF_GOAL_ATTAINED(board, character)

True

Character's value in "Current HP" is 0

False

Print "Congratulations! You completed Victor's Random Trivia Survival Game! Thanks for playing!"

True

Print "You have no HP left. Game over."

END