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```
clc; clear; close all;

% --- 1. Initialize Game Engine ---
% Set scene zoom to 8, background to black, to highlight assets
scene = simpleGameEngine('retro_pack.png', 16, 16, 8, [0, 0, 0]);

% --- 2. Define Asset IDs ---
person_sprite   = 29;  % A small white person
demon_sprite    = 221; % A red demon

% Wall composed of multiple parts
wall_top_left     = 19; % Top-left corner
wall_top_mid      = 20; % Top edge
wall_top_right    = 21; % Top-right corner
wall_mid_left     = 51; % Left edge
wall_fill         = 1;  % Middle fill
wall_mid_right    = 53; % Right edge
wall_bottom_left  = 83; % Bottom-left corner
wall_bottom_mid   = 84; % Bottom edge
wall_bottom_right = 85; % Bottom-right corner

% Text box composed of multiple parts
txt_top_left     = 625; % Top-left corner
txt_top_mid      = 626; % Top edge
txt_top_right    = 627; % Top-right corner
txt_mid_left     = 657; % Left edge
txt_mid_right    = 659; % Right edge
txt_bottom_left  = 689; % Bottom-left corner
txt_bottom_mid   = 690; % Bottom edge
txt_bottom_right = 691; % Bottom-right corner

red_heart     = 731;
tree          = 33;
trees         = 36;
red_flag      = 274;
wood_road     = 17;
snake_monster = 285;
bat_monster   = 283;

% --- 3. Design Scene Layout ---

% Create a 13x13 scene
```

```
rows = 13;
cols = 13;
```
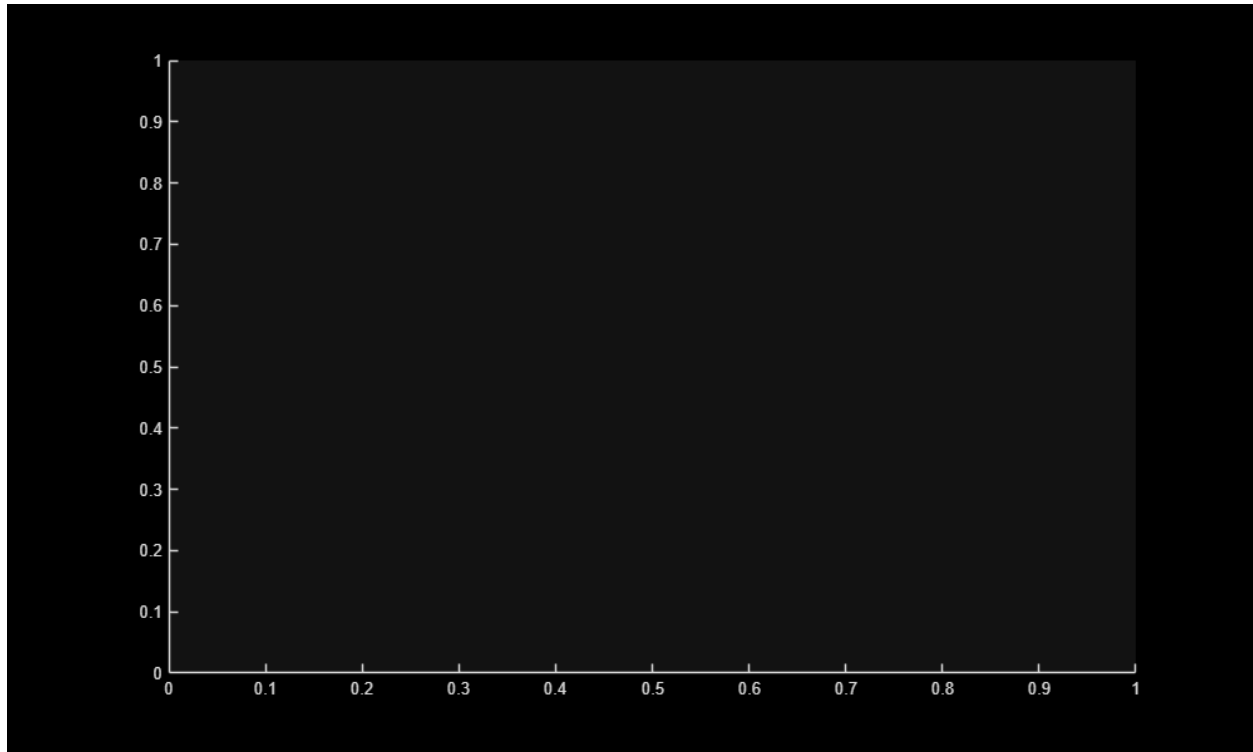
--- Scene 1: Initial Encounter ---

```
figure; % Create a new figure window
ax1 = axes; % Get current axes

background1 = ones(rows, cols) * wall_fill;
background1(1, 9:13) = red_heart;      % Health bar always displayed in the
top-right corner
background1(5, 10) = demon_sprite;     % Demon always displayed
background1(5, 4) = person_sprite;     % Person always displayed
background1(6, 9:11) = tree;           % Tree always displayed
background1(4, 9:11) = trees;          % Trees always displayed
background1(5, 8) = snake_monster;     % Snake monster always displayed
background1(5, 6) = bat_monster;       % Bat monster always displayed
background1(5, 11) = red_flag;         % Red flag always displayed

drawScene(scene, background1);
ax1 = gca;
title(ax1, 'Scene 1: Initial Encounter', 'Color', 'white');
xlabel(ax1, 'Click screen to continue', 'Color', 'white');
text_x_pixel_main = ((3 - 1) + (11 - 3 + 1) / 2) * scene.sprite_width *
scene.zoom;
text_y_pixel_main = ((8 - 1) + 0.5) * scene.sprite_height * scene.zoom;
text(ax1, text_x_pixel_main, text_y_pixel_main+30, 'You encountered
demons and monsters!', 'Color', 'white','HorizontalAlignment', 'center',
'VerticalAlignment','middle', 'FontSize', 10, 'FontWeight', 'bold');
text(ax1, text_x_pixel_main, text_y_pixel_main-30, 'You need to
make a choice...', 'Color', 'white','HorizontalAlignment', 'center',
'VerticalAlignment', 'middle', 'FontSize', 10, 'FontWeight', 'bold');

disp('Scene 1: Initial Encounter - Click screen to continue');
waitforclick(scene); % Wait for click, then close current window
close(gcf);
```

Scene 1: Initial Encounter - Click screen to continue

--- Scene 2: Make a Choice ---

```matlab
figure; % Create a new figure window
ax2 = axes; % Get current axes

background2 = ones(rows, cols) * wall_fill;
background2(1, 9:13) = red_heart;       % Health bar always displayed in the
top-right corner
background2(5, 10) = demon_sprite;      % Demon always displayed
background2(5, 4) = person_sprite;      % Person always displayed
background2(6, 9:11) = tree;            % Tree always displayed
background2(4, 9:11) = trees;           % Trees always displayed
background2(5, 8) = snake_monster;      % Snake monster always displayed
background2(5, 6) = bat_monster;        % Bat monster always displayed
background2(5, 11) = red_flag;          % Red flag always displayed
% Draw main text box
background2(7, 3:11) = txt_top_mid;
background2(9, 3:11) = txt_bottom_mid;
background2(8, 2) = txt_mid_left;
background2(8, 12) = txt_mid_right;
background2(7, 2) = txt_top_left;
background2(7, 12) = txt_top_right;
background2(9, 2) = txt_bottom_left;
background2(9, 12) = txt_bottom_right;

% Draw left choice text box
background2(11, 3:5) = txt_top_mid;
background2(13, 3:5) = txt_bottom_mid;
```

```matlab
background2(12, 2) = txt_mid_left;
background2(12, 6) = txt_mid_right;
background2(11, 2) = txt_top_left;
background2(11, 6) = txt_top_right;
background2(13, 2) = txt_bottom_left;
background2(13, 6) = txt_bottom_right;

% Draw right choice text box
background2(11, 9:11) = txt_top_mid;
background2(13, 9:11) = txt_bottom_mid;
background2(12, 8) = txt_mid_left;
background2(12, 12) = txt_mid_right;
background2(11, 8) = txt_top_left;
background2(11, 12) = txt_top_right;
background2(13, 8) = txt_bottom_left;
background2(13, 12) = txt_bottom_right;

drawScene(scene, background2);
ax2 = gca;
title(ax2, 'Scene 2: Friend''s Suggestion', 'Color', 'white');
xlabel(ax2, 'Please click one of the choice boxes below', 'Color', 'white');

% Main text
text_x_pixel_main = ((3 - 1) + (11 - 3 + 1) / 2) * scene.sprite_width *
scene.zoom;
text_y_pixel_main = ((8 - 1) + 0.5) * scene.sprite_height * scene.zoom;
text(ax2, text_x_pixel_main, text_y_pixel_main - 50, 'Your friends
offer you', 'HorizontalAlignment', 'center', 'VerticalAlignment', 'middle',
'Color', 'white', 'FontSize', 10, 'FontWeight', 'bold');
text(ax2, text_x_pixel_main, text_y_pixel_main, 'a vape to "just try',
'HorizontalAlignment', 'center', 'VerticalAlignment', 'middle', 'Color',
'white', 'FontSize', 10, 'FontWeight', 'bold');
text(ax2, text_x_pixel_main, text_y_pixel_main + 50, 'it once.',
'HorizontalAlignment', 'center', 'VerticalAlignment', 'middle', 'Color',
'white', 'FontSize', 10, 'FontWeight', 'bold');

% Left choice text
text_x_pixel_left = ((3 - 1) + (5 - 3 + 1) / 2) * scene.sprite_width *
scene.zoom;
text_y_pixel_left = ((12 - 1) + 0.5) * scene.sprite_height * scene.zoom;
text(ax2, text_x_pixel_left, text_y_pixel_left - 30, 'Say no and',
'HorizontalAlignment', 'center', 'VerticalAlignment','middle', 'Color',
'white', 'FontSize', 10, 'FontWeight', 'bold');
text(ax2, text_x_pixel_left, text_y_pixel_left + 30, 'suggest another
activity.', 'HorizontalAlignment', 'center', 'VerticalAlignment', 'middle',
'Color', 'white', 'FontSize', 10, 'FontWeight', 'bold');

% Right choice text
text_x_pixel_right = ((9 - 1) + (11 - 9 + 1) / 2) * scene.sprite_width *
scene.zoom;
text_y_pixel_right = ((12 - 1) + 0.5) * scene.sprite_height * scene.zoom;
text(ax2, text_x_pixel_right, text_y_pixel_right, 'Try it to fit in.',
'HorizontalAlignment', 'center', 'VerticalAlignment', 'middle', 'Color',
'white', 'FontSize', 10, 'FontWeight', 'bold');
```

```matlab
% Define grid ranges for the two text boxes (rows/columns)
left_box_rows = 11:13;
left_box_cols = 2:6;
right_box_rows = 11:13;
right_box_cols = 8:12;

disp('Scene 2: Make a Choice - Please click one of the two choice text boxes
below');
while true
    [click_row, click_col] = scene.getMouseInput();
    if click_row ~= 0 && click_col ~= 0
        if ismember(click_row, left_box_rows) && ismember(click_col,
left_box_cols)
            disp('You clicked the left text box: chose to refuse and suggest
another activity');
            outcome_text = 'You made a healthy choice! You have full
health.';
            red_kill = 0;
            break;
        elseif ismember(click_row, right_box_rows) && ismember(click_col,
right_box_cols)
            disp('You clicked the right text box: chose to try to fit in');
            outcome_text = 'You chose to fit in, but may face risks. One
health point deducted.';
            red_kill = 1;
            break;
        else
            disp('Invalid click, please click one of the two choice text
boxes below');
        end
    end
end
close(gcf); % Wait for click, then close current window
```

Scene 2: Make a Choice - Please click one of the two choice text boxes below
You clicked the left text box: chose to refuse and suggest another activity
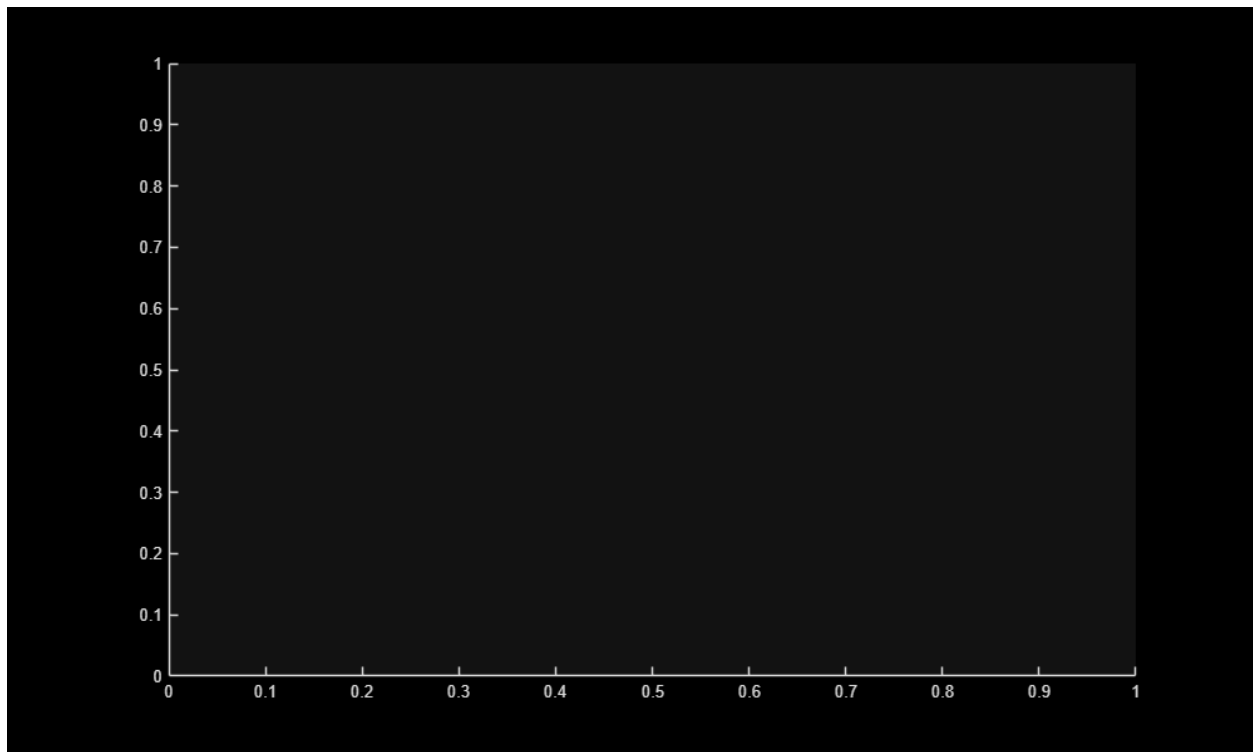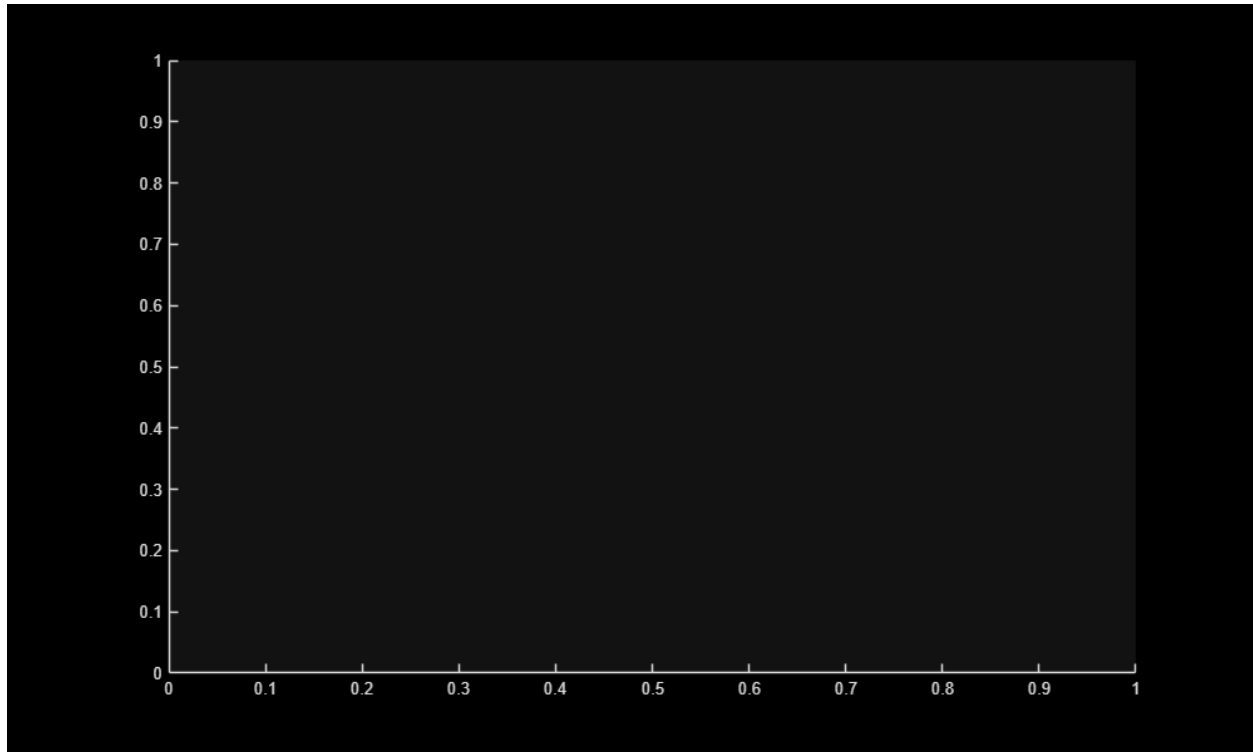
--- Scene 3: Outcome Display ---

```
figure; % Create a new figure window
ax3 = axes; % Get current axes
```

```matlab
background3 = ones(rows, cols) * wall_fill;
background3(1, (9+red_kill):13) = red_heart;     % Health bar always
displayed in the top-right corner
background3(5, 10) = demon_sprite;    % Demon always displayed
background3(5, 4) = wall_fill;        % Clear the person's original position
background3(6, 9:11) = tree;          % Tree always displayed
background3(4, 9:11) = trees;         % Trees always displayed
background3(5, 8) = snake_monster;    % Snake monster always displayed
background3(5, 6) = person_sprite;    % Person moves to the bat's original
position
background3(5, 11) = red_flag;        % Red flag always displayed
% Bat monster (bat_monster) is no longer displayed in Scene 3

drawScene(scene, background3);
ax3 = gca;
title(ax3, 'Scene 3: Your Choice', 'Color', 'white');
xlabel(ax3, 'Click screen to continue game', 'Color', 'white');

% Calculate pixel coordinates for text box, centered, consistent with Scene
1 and Scene 2
% Assume center grid coordinates for text are (7, 7)
text_center_col = 7;
text_center_row = 7;

text_x_pixel_center = (text_center_col - 0.5) * scene.sprite_width *
scene.zoom; % Adjust to center point
text_y_pixel_center = (text_center_row - 0.5) * scene.sprite_height *
scene.zoom; % Adjust to center point

text(ax3, text_x_pixel_center, text_y_pixel_center + 30, outcome_text,
'Color', 'white', 'FontSize', 12, 'FontWeight', 'bold',
'HorizontalAlignment', 'center', 'VerticalAlignment', 'middle');
text(ax3, text_x_pixel_center, text_y_pixel_center - 30, 'You passed the
first monster', 'Color', 'white', 'FontSize', 10, 'FontWeight', 'bold',
'HorizontalAlignment', 'center', 'VerticalAlignment', 'middle');

% disp('Scene 3: Outcome Display - Click screen to end game'); % Removed
disp command
waitforclick(scene);
close all; % Close all figure windows

% Helper function: wait for mouse click
function waitforclick(scene_obj)
    while true
        [click_row, click_col] = scene_obj.getMouseInput();
        if click_row ~= 0 || click_col ~= 0
            break;
        end
    end
end
```

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