// Pacman Game in C language

#include <conio.h>

#include <stdio.h>

#include <stdlib.h>

// All the elements to be used

// Declared here

#define WIDTH 40

#define HEIGHT 20

#define PACMAN 'C'

#define WALL '#'

#define FOOD '.'

#define EMPTY ' '

#define DEMON 'X'

// Global Variables are

// Declared here

int res = 0;

int score = 0;

int pacman\_x, pacman\_y;

char board[HEIGHT][WIDTH];

int food = 0;

int curr = 0;

void initialize()

{

// Putting Walls as boundary in the Game

for (int i = 0; i < HEIGHT; i++) {

for (int j = 0; j < WIDTH; j++) {

if (i == 0 || j == WIDTH - 1 || j == 0

|| i == HEIGHT - 1) {

board[i][j] = WALL;

}

else

board[i][j] = EMPTY;

}

}

// Putting Walls inside the Game

int count = 50;

while (count != 0) {

int i = (rand() % (HEIGHT + 1));

int j = (rand() % (WIDTH + 1));

if (board[i][j] != WALL && board[i][j] != PACMAN) {

board[i][j] = WALL;

count--;

}

}

int val = 5;

while (val--) {

int row = (rand() % (HEIGHT + 1));

for (int j = 3; j < WIDTH - 3; j++) {

if (board[row][j] != WALL

&& board[row][j] != PACMAN) {

board[row][j] = WALL;

}

}

}

// Putting Demons in the Game

count = 10;

while (count != 0) {

int i = (rand() % (HEIGHT + 1));

int j = (rand() % (WIDTH + 1));

if (board[i][j] != WALL && board[i][j] != PACMAN) {

board[i][j] = DEMON;

count--;

}

}

// Cursor at Center

pacman\_x = WIDTH / 2;

pacman\_y = HEIGHT / 2;

board[pacman\_y][pacman\_x] = PACMAN;

// Points Placed

for (int i = 0; i < HEIGHT; i++) {

for (int j = 0; j < WIDTH; j++) {

if (i % 2 == 0 && j % 2 == 0

&& board[i][j] != WALL

&& board[i][j] != DEMON

&& board[i][j] != PACMAN) {

board[i][j] = FOOD;

food++;

}

}

}

}

void draw()

{

// Clear screen

system("cls");

// Drawing All the elements in the screen

for (int i = 0; i < HEIGHT; i++) {

for (int j = 0; j < WIDTH; j++) {

printf("%c", board[i][j]);

}

printf("\n");

}

printf("Score: %d\n", score);

}

// Function enables to move the Cursor

void move(int move\_x, int move\_y)

{

int x = pacman\_x + move\_x;

int y = pacman\_y + move\_y;

if (board[y][x] != WALL) {

if (board[y][x] == FOOD) {

score++;

food--;

curr++;

if (food == 0) {

res = 2;

return;

}

}

else if (board[y][x] == DEMON) {

res = 1;

}

board[pacman\_y][pacman\_x] = EMPTY;

pacman\_x = x;

pacman\_y = y;

board[pacman\_y][pacman\_x] = PACMAN;

}

}

// Main Function

int main()

{

initialize();

char ch;

food -= 35;

int totalFood = food;

// Instructions to Play

printf(" Use buttons for w(up), a(left) , d(right) and "

"s(down)\nAlso, Press q for quit\n");

printf("Enter Y to continue: \n");

ch = getch();

if (ch != 'Y' && ch != 'y') {

printf("Exit Game! ");

return 1;

}

while (1) {

draw();

printf("Total Food count: %d\n", totalFood);

printf("Total Food eaten: %d\n", curr);

if (res == 1) {

// Clear screen

system("cls");

printf("Game Over! Dead by Demon\n Your Score: "

"%d\n",

score);

return 1;

}

if (res == 2) {

// Clear screen

system("cls");

printf("You Win! \n Your Score: %d\n", score);

return 1;

}

// Taking the Input from the user

ch = getch();

// Moving According to the

// input character

switch (ch) {

case 'w':

move(0, -1);

break;

case 's':

move(0, 1);

break;

case 'a':

move(-1, 0);

break;

case 'd':

move(1, 0);

break;

case 'q':

printf("Game Over! Your Score: %d\n", score);

return 0;

}

}

return 0;

}