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#include <cstdlib>
#include <ctime>
#include <iostream>
#include <windows.h>
#include <conio.h>
using namespace std;

      char board[3][3]= {{'1','2','3'},{'4','5','6'},{'7','8','9'}};
/*two dimensional array*/
    char turn = 'X';
    int row, column;
    bool draw=false;
void display_board(){
      system("cls");
      cout<<"\n";
         cout<<" \t\t\t\t****Well Come To Tic Tac Toe Game**** \n\n";

      cout<<"     \t\t$Let Start the game guys$\n\n";
      cout<<" player 1 have [X] ";
       cout<<"-------"<<" player 2  have [O]\n\n\n";

       cout<<"\t\t     |     |     \n";
       cout<<"\t\t  "<<board[0][0]<<"  |  "<<board[0][1]<<"  |
"<<board[0][2]<<"  \n";
       cout<<"\t\t_____|_____|_____\n";
       cout<<"\t\t     |     |     \n";
      cout<<"\t\t  "<<board[1][0]<<"  |  "<<board[1][1]<<"  |
"<<board[1][2]<<"  \n";
       cout<<"\t\t_____|_____|_____\n";
       cout<<"\t\t     |     |     \n";
      cout<<"\t\t  "<<board[2][0]<<"  |  "<<board[2][1]<<"  |
"<<board[2][2]<<"  \n";
       cout<<"\t\t     |     |     \n";
}
void player_turn()
{
int choice;
 if(turn == 'X')
    cout<<"\n\t player1[X] turn";
 if(turn == 'O')
    cout<<"\n\t player2[O] turn";
      cin>>choice;
        switch (choice)
        {
    case 1: row=0; column=0; break;
    case 2: row=0; column=1; break;
    case 3: row=0; column=2; break;
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    case 4: row=1; column=0; break;
    case 5: row=1; column=1; break;
    case 6: row=1; column=2; break;
    case 7: row=2; column=0; break;
    case 8: row=2; column=1; break;
    case 9: row=2; column=2; break;

    default:
        cout<<"invalid choice\n";
         }
if(turn=='X'&& board[row][column]!='X'&&board[row][column]!='O')
      {
        board[row][column]= 'X';
        turn = 'O';
      }
  else if(turn=='O'&& board[row][column]!='X'&&board[row][column]!='O')
  {
        board[row][column]= 'O';
        turn = 'X';
      }
      else
      {
            cout<<"box already fill\n please try again\n";
            player_turn();

}
 display_board();
}        //check win//
bool gameover()
{
      for(int i=0;i<3;i++)
                              //main point//

      if(board[i][0]==board[i][1]&&board[i][0]==board[i][2]||board[0][i]=
=board[1][i]&&board[0][i]==board[2][i])

      return false;
      if(board[0][0]==board[1][1]&&board[0][0]==board[2][2]||board[0][2]=
=board[1][1]&&board[0][2]==board[2][0])
      return false;
for(int i=0;i<3;i++)
for(int j=0;j<3;j++)
if(board[i][j]!='X'&& board[i][j]!='O')
return true;

//draw table//
draw=true;
return false;

}

   //end of tic tac toe function defination//
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```
   //start of snake game function defination//
bool gameOver;
const int width = 20;
const int height = 20;
int x, y, fruitX, fruitY, score;
int tailX[100], tailY[100];
int nTail;
enum eDirecton { STOP = 0, LEFT, RIGHT, UP, DOWN};
eDirecton dir;
void Setup()
{
    gameOver = false;
    dir = STOP;
    x = width / 2;
    y = height / 2;
    fruitX = rand() % width;
    fruitY = rand() % height;
    score = 0;
}
void Draw()
{
    system("cls"); //system("clear");
       cout<<"\n";
cout<<"\t\t\t\t***Well Come To Snake Game***\n\n\n";
    for (int i = 0; i < width+2; i++)
        cout << "#";
    cout << endl;

    for (int i = 0; i < height; i++)
    {
        for (int j = 0; j < width; j++)
        {
            if (j == 0)
                cout << "#";
            if (i == y && j == x)
                cout << "O";
            else if (i == fruitY && j == fruitX)
                cout << "F";
            else
            {
                bool print = false;
                for (int k = 0; k < nTail; k++)
                {
                    if (tailX[k] == j && tailY[k] == i)
                    {
                        cout << "o";
                        print = true;
                    }
                }
                if (!print)
                    cout << " ";
            }
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            if (j == width - 1)
                cout << "#";
        }
        cout << endl;
    }

    for (int i = 0; i < width+2; i++)
        cout << "#";
    cout << endl;
    cout << "Score:" << score << endl;
}
void Input()
{
    if (_kbhit())
    {
        switch (_getch())
        {
        case 'a':
            dir = LEFT;
            break;
        case 'd':
            dir = RIGHT;
            break;
        case 'w':
            dir = UP;
            break;
        case 's':
            dir = DOWN;
            break;
        case 'x':
            gameOver = true;
            break;
        }
    }
}
void Logic()
{
    int prevX = tailX[0];
    int prevY = tailY[0];
    int prev2X, prev2Y;
    tailX[0] = x;
    tailY[0] = y;
    for (int i = 1; i < nTail; i++)
    {
        prev2X = tailX[i];
        prev2Y = tailY[i];
        tailX[i] = prevX;
        tailY[i] = prevY;
        prevX = prev2X;
        prevY = prev2Y;
    }
    switch (dir)
    {
    case LEFT:
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        x--;
        break;
    case RIGHT:
        x++;
        break;
    case UP:
        y--;
        break;
    case DOWN:
        y++;
        break;
    default:
        break;
    }
    //if (x > width || x < 0 || y > height || y < 0)
    //  gameOver = true;
    if (x >= width) x = 0; else if (x < 0) x = width - 1;
    if (y >= height) y = 0; else if (y < 0) y = height - 1;

    for (int i = 0; i < nTail; i++)
        if (tailX[i] == x && tailY[i] == y)
            gameOver = true;

    if (x == fruitX && y == fruitY)
    {
        score += 10;
        fruitX = rand() % width;
        fruitY = rand() % height;
        nTail++;
    }
}




int main()
{


      cout<<"\n";
      cout<<"\t\t\t****Well Come To Our Gaming System****\n\n ";

         cout<<"\t\t NAME\t\t\t\t\t   ID\n\n";

       cout<<"\t\tAmna Younas\t\t\t\t F2022065294.\n\n";

       cout<<"\t\tAhmad Gillani\t\t\t\t F2022065296.\n\n";

       cout<<"\t\tManahil Malik\t\t\t\t F2022065297.\n\n";

       cout<<"\t\tFatima Younas\t\t\t\t F2022065345.\n\n";

       cout<<"\t\tAhmad Hassan\t\t\t\t F2022065065.\n\n";
```

```
                  //starting of guess number game//
      int choice;

cout<<"\t\t\t  ****What You Want To Play****\n\n \tPress 1 For Guess
Number Game.\n \tPress 2 For Tic Tac Toe Game.\n \tPress 3 For Snake
Game.\n";
cin>>choice;
if(choice==1)
{
    system("cls");
    cout<<"\n";
      cout << "\t\t\t***Welcome to GuessTheNumber game***\n"
            << endl;
      cout << "You have to guess a number between 1 and 100. "
                  "You'll have limited choices based on the "
                  "level you choose.\n\n \t\t\t\t$Good Luck$"
            << endl;

      while (true) {
            cout << "\nEnter the difficulty level: \n";
            cout << "1 For easy.\t";
            cout << "2 For medium.\t";
            cout << "3 For difficult.\t";
            cout << "0 For ending the game.\n" << endl;

            // select the level of difficulty
            int difficultyChoice;
            cout << "Enter the number: ";
            cin >> difficultyChoice;

            // generating the secret number
            srand(time(0));
            int secretNumber = 1 + (rand() % 100);
            int playerChoice;

            // Difficulty Level:Easy
            if (difficultyChoice == 1)
            {
                  cout << "\nYou have 10 choices for finding the "
                              "secret number between 1 and 100.";
                  int choicesLeft = 10;
                  for (int i = 1; i <= 10; i++)
                   {

                        // prompting the player to guess the secret
                        // number
                        cout << "\n\nEnter the number: ";
                        cin >> playerChoice;

                        // determining if the playerChoice matches
                        // the secret number
                        if (playerChoice == secretNumber)
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                {
                      cout << "Well played! You won, "
                            << playerChoice
                            << " is the secret number" << endl;
                      cout << "\t\t\t Thanks for playing...."
                            << endl;
                      cout << "Play the game again with "
                                  "us!!\n\n"
                            << endl;
                      break;
                }
                else {
                      cout << "Nope, " << playerChoice
                            << " is not the right number\n";
                      if (playerChoice > secretNumber)
                      {
                            cout << "The secret number is "
                                        "smaller than the number "
                                        "you have chosen"
                                  << endl;
                      }
                      else {
                            cout << "The secret number is "
                                        "greater than the number "
                                        "you have chosen"
                                  << endl;
                      }
                      choicesLeft--;
                      cout << choicesLeft << " choices left. "
                            << endl;
                      if (choicesLeft == 0)
                       {
                            cout << "You couldn't find the "
                                        "secret number, it was "
                                  << secretNumber
                                  << ", You lose!!\n\n";
                            cout << "Play the game again to "
                                        "win!!!\n\n";
                      }
                }
          }
    }

    // Difficulty level : Medium
    else if (difficultyChoice == 2)
     {
          cout << "\nYou have 7 choices for finding the "
                      "secret number between 1 and 100.";
          int choicesLeft = 7;
          for (int i = 1; i <= 7; i++)
          {

                // prompting the player to guess the secret
                // number
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```
                cout << "\n\nEnter the number: ";
                cin >> playerChoice;

                // determining if the playerChoice matches
                // the secret number
                if (playerChoice == secretNumber)
                 {
                      cout << "Well played! You won, "
                            << playerChoice
                            << " is the secret number" << endl;
                      cout << "\t\t\t Thanks for playing...."
                            << endl;
                      cout << "Play the game again with "
                                  "us!!\n\n"
                            << endl;
                      break;
                }
                else {
                      cout << "Nope, " << playerChoice
                            << " is not the right number\n";
                      if (playerChoice > secretNumber)
                       {
                            cout << "The secret number is "
                                        "smaller than the number "
                                        "you have chosen"
                                  << endl;
                      }
                      else {
                            cout << "The secret number is "
                                        "greater than the number "
                                        "you have chosen"
                                  << endl;
                      }
                      choicesLeft--;
                      cout << choicesLeft << " choices left. "
                            << endl;
                      if (choicesLeft == 0) {
                            cout << "You couldn't find the "
                                        "secret number, it was "
                                  << secretNumber
                                  << ", You lose!!\n\n";
                            cout << "Play the game again to "
                                        "win!!!\n\n";
                      }
                }
          }
    }
    // Difficulty level : Medium
    else if (difficultyChoice == 3) {
          cout << "\nYou have 5 choices for finding the "
                      "secret number between 1 and 100.";
          int choicesLeft = 5;
          for (int i = 1; i <= 5; i++) {
```

```
            // prompting the player to guess the secret
            // number
            cout << "\n\nEnter the number: ";
            cin >> playerChoice;

            // determining if the playerChoice matches
            // the secret number
            if (playerChoice == secretNumber) {
                  cout << "Well played! You won, "
                        << playerChoice
                        << " is the secret number" << endl;
                  cout << "\t\t\t Thanks for playing...."
                        << endl;
                  cout << "Play the game again with "
                              "us!!\n\n"
                        << endl;
                  break;
            }
            else {
                  cout << "Nope, " << playerChoice
                        << " is not the right number\n";
                  if (playerChoice > secretNumber) {
                        cout << "The secret number is "
                                    "smaller than the number "
                                    "you have chosen"
                              << endl;
                  }
                  else {
                        cout << "The secret number is "
                                    "greater than the number "
                                    "you have chosen"
                              << endl;
                  }
                  choicesLeft--;
                  cout << choicesLeft << " choices left. "
                        << endl;
                  if (choicesLeft == 0) {
                        cout << "You couldn't find the "
                                    "secret number, it was "
                              << secretNumber
                              << ", You lose!!\n\n";
                        cout << "Play the game again to "
                                    "win!!!\n\n";
                  }
            }
      }
}
// To end the game
else if (difficultyChoice == 0) {
      exit(0);
}
else {
      cout << "Wrong choice, Enter valid choice to "
            "play the game! (0,1,2,3)"
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```
                        << endl;
            }
      }

}
        //end of guess number game//

         //function calling in main body of tik tak to//
else if(choice==2)
{

      while(gameover())
{
      display_board();
    player_turn();
      gameover();
}
if(turn=='X'&&draw == false )
{
      cout<<"player2[O]wins!! Congratulation\n";
}
else if(turn=='O'&&draw == false)
{
      cout<<"player1[X]wins!! Congratulation\n";
}
else
cout<<"GAME DRAW!\n";
}
       //end of tik tac to//

       //starting of snake game
else if(choice==3)

{

        Setup();
    while (!gameOver)
    {
        Draw();
        Input();
        Logic();
        Sleep(10); //sleep(10);
    }
}

}
```