**Example Questions for Midterm Exam - Answers**

**1-** Console.Write("Enter N ");

int num = Convert.ToInt32(Console.ReadLine());

for (int i = 0; i <= num; i++)

Console.WriteLine(i + "+" + (num - i) + "=" + num);

Console.ReadLine();

**3-** for (int t = 1; t <= 10; t++)

{

double temp = 10 \* t \* t - t;

Console.WriteLine("Height at the " + t + "th minute = " + temp);

}

Console.ReadLine();

**6-**  int[,] a = new int[,] {{4, 7, 8, 9, 2},

{2, 5, 0, 0, 0},

{7, 0, 6, 0, 0},

{2, 0, 0, 4, 0},

{7, 0, 0, 0, 1}};

bool flag = true;

if (a.GetLength(0) != a.GetLength(1))

flag = false;

else

{

for (int i = 0; i < a.GetLength(0); i++)

{

for (int j = 0; j < a.GetLength(1); j++)

{

if ((i == 0 || j == 0 || i == j) && a[i, j] == 0)

{

flag = false;

break;

}

else if (!(i == 0 || j == 0 || i == j) && a[i, j] != 0)

{

flag = false;

break;

}

}

if (flag == false)

break;

}

}

Console.WriteLine(flag);

Console.ReadLine();

**7-**  double result = 0.0;

for (double i = 1.0; i <= 5000.0; i++)

result += 1.0 / (i \* (i + 1.0));

Console.WriteLine(result);

Console.ReadLine();

**8-** int[,] a = new int[,] { { 0, 1, 1, -1, -1 },

{ 1, 0, -1, 1, -1 },

{ 1, -1, 0, 1, 1 },

{ -1, 1, 1, 0, -1 },

{ -1, 1, 1, -1, 0 } };

bool conference = true;

if (a.GetLength(0) == a.GetLength(1))

{

for (int i = 0; i < a.GetLength(0); i++)

{

for (int j = 0; j < a.GetLength(1); j++)

{

if (i == j && a[i, j] != 0)

{

conference = false;

break;

}

else if (i != j && a[i, j] != -1 && a[i, j] != 1)

{

conference = false;

break;

}

}

if (!conference)

break;

}

}

else

{

conference = false;

}

Console.WriteLine(conference);

Console.ReadLine();

**11-**  int w\_num = 0;

int s\_num = 1;

int t\_num = 9;

int z\_num = 8;

for (int i = 0; i < 10; i++)

{

for (int j = 1; j < 10 - i; j++)

Console.Write(" ");

for (int j = 0; j < w\_num; j++)

Console.Write("W");

for (int j = 0; j < s\_num; j++)

Console.Write("S");

w\_num++;

s\_num++;

Console.WriteLine();

}

for (int i = 0; i < 10; i++)

{

for (int j = 0; j <= i; j++)

Console.Write(" ");

for (int j = 0; j < t\_num; j++)

Console.Write("T");

for (int j = 0; j < z\_num; j++)

Console.Write("Z");

t\_num--;

z\_num--;

Console.WriteLine();

}

Console.ReadLine();

**12-** Console.Write("Input1: ");

int input1 = Convert.ToInt32(Console.ReadLine());

Console.Write("Input2: ");

int input2 = Convert.ToInt32(Console.ReadLine());

int biggest;

if (input1 > input2)

biggest = input1;

else

biggest = input2;

int okek = 1;

for (int i = 2; i <= biggest; i++)

{

if (input1 % i == 0 && input2 % i == 0)

{

okek = okek \* i;

input1 = input1 / i;

input2 = input2 / i;

}

else if (input1 % i == 0)

{

okek = okek \* i;

input1 = input1 / i;

}

else if (input2 % i == 0)

{

okek = okek \* i;

input2 = input2 / i;

}

}

if (input1 == input2)

okek = okek \* input1;

else

okek = okek \* input1 \* input2;

Console.Write(okek);

Console.ReadLine();

**13-**  int[,] a = new int[,] {{1, 1, 1, 1},

{1, 1, 0, 1},

{1, 0, 1, 0},

{1, 0, 0, 1}};

bool redheffer = true;

if (a.GetLength(0) == a.GetLength(1))

{

for (int i = 0; i < a.GetLength(0); i++)

{

for (int j = 0; j < a.GetLength(1); j++)

{

if ((j == 0 || (j + 1) % (i + 1) == 0) && a[i, j] != 1)

{

redheffer = false;

break;

}

else if (j != 0 && (j + 1) % (i + 1) != 0 && a[i, j] != 0)

{

redheffer = false;

break;

}

}

if (!redheffer)

break;

}

}

else

{

redheffer = false;

}

Console.WriteLine(redheffer);

Console.ReadLine();

**14-**  Console.Write("Enter a number :");

int num = Convert.ToInt32(Console.ReadLine());

bool hexagonal = false;

for (int n = 1; n <= num; n++)

{

if (n \* (2 \* n - 1) == num)

{

hexagonal = true;

break;

}

}

Console.WriteLine(hexagonal);

Console.ReadLine();

**16-**  int num = 3;

for (int i = 0; i < 10; i++)

{

int temp = num;

for (int j = 0; j <= i; j++)

{

Console.Write(temp + " ");

temp++;

}

Console.WriteLine();

num += 2;

}

Console.ReadLine();

break;

**17-** int[,] a = new int[,] {{1, 4, 0, 0},

{0, 4, 1, 0},

{0, 0, 3, 4},

{0, 0, 0, 3}};

bool flag = true;

if (a.GetLength(0) == a.GetLength(1))

{

for (int i = 0; i < a.GetLength(0); i++)

{

for (int j = 0; j < a.GetLength(1); j++)

{

if (i == j && a[i, j] == 0)

{

flag = false;

break;

}

if (j == i + 1 && a[i, j] == 0)

{

flag = false;

break;

}

if (i!=j && j != i + 1 && a[i, j] != 0)

{

flag = false;

break;

}

}

if (flag == false)

break;

}

}

else

{

flag = false;

}

Console.WriteLine(flag);

Console.ReadLine();