**Answers - Example Questions for Final Exam**

**1-** static void PrintString(string str)

{

for (int i = 1; i <= str.Length; i++)

Console.WriteLine(str.Substring(0, i));

}

static void Main(string[] args)

{

Console.Write("Enter a string :");

string str = Console.ReadLine();

PrintString(str);

Console.ReadLine();

}

**3-** static bool IsAbundant(int number)

{

int sum = 0;

for (int i = 1; i < number; i++)

if (number % i == 0)

sum = sum + i;

if (sum > number) return true;

else return false;

}

static void Main(string[] args)

{

Console.Write(IsAbundant(12));

Console.ReadLine();

}

**4-** static char FindMajorityCharacter(string sentence)

{

for (int i = 0; i < sentence.Length; i++)

{

int count = 0;

for (int j = 0; j < sentence.Length; j++)

{

if (sentence[i] == sentence[j])

count++;

}

if (count >= sentence.Length / 2)

return sentence[i];

}

return ' ';

}

static void Main(string[] args)

{

string sentence = "annem de evde deeeeeeeeeeeermişim";

Console.WriteLine(FindMajorityCharacter(sentence));

Console.ReadLine();

}

**6-**  static string MergeTwoStrings(string str1, string str2)

{

int min = Math.Min(str1.Length, str2.Length);

string newStr = "";

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

{

newStr = newstr + str1[i];

newStr = newstr + str2[i];

}

if (min == str1.Length)

newStr = newstr + str2.Substring(min);

else if (min == str2.Length)

newStr = newstr + str1.Substring(min);

return newStr;

}

static void Main(string[] args)

{

string str1 = "deryaa";

string str2 = "hoca";

Console.Write(MergeTwoStrings(str1, str2));

Console.ReadLine();

}

**8-** static void Split(string strToSplit, char separator)

{

int index = 0;

for (int i = 0; i < strToSplit.Length; i++)

{

if (strToSplit[i] == separator)

{

Console.WriteLine(strToSplit.Substring(index, i - index));

i = i + 1;

index = i;

}

}

if (index != strToSplit.Length)

Console.WriteLine(strToSplit.Substring(index));

}

static void Main(string[] args)

{

string strToSplit = "He said that it is not a good idea";

char separator = ' ';

Split(strToSplit, separator);

Console.ReadLine();

}

**10-** static void MultipleChoiceExam(string student\_answers, string correct\_answers)

{

int trueCount = 0, wrongCount = 0, emptyCount = 0;

for (int i = 0; i < student\_answers.Length; i++)

{

if (student\_answers[i].Equals(correct\_answers[i])) trueCount++;

else if (student\_answers[i].Equals(' ')) emptyCount++;

else wrongCount++;

}

Console.Write(trueCount + " true, " + wrongCount + " wrong, " + emptyCount + " empty answer");

}

static void Main(string[] args)

{

string student\_answers = "AA BDBCACC";

string correct\_answers = "ADDCDBCACB";

MultipleChoiceExam(student\_answers, correct\_answers);

Console.ReadLine();

}

**11-** static bool IsTridiagonalMatrix(int[,] m)

{

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

{

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

{

if ((i == j || Math.Abs(i - j) == 1) && m[i, j] == 0)

return false;

if (!(i == j || Math.Abs(i - j) == 1) && m[i, j] != 0)

return false;

}

}

return true;

}

static void Main(string[] args)

{

int[,] m = new int[,] {{1, 3, 0, 0, 0},

{1, 4, 1, 0, 0},

{0, 2, 2, 1, 0},

{0, 0, 5, 3, 1},

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

Console.Write(IsTridiagonalMatrix(m));

Console.ReadLine();

}

**12-** static string PigLatinTranslation(string originalString)

{

string output = "";

string[] words = originalString.Split(' ');

for (int i = 0; i < words.Length; i++)

{

if ("aeiouAEIOU".IndexOf(words[i].Substring(0, 1)) >= 0)

output = output + words[i] + " ";

else

output = output + words[i].Substring(1) + "-" + words[i].Substring(0, 1) + "ay ";

}

return output;

}

static void Main(string[] args)

{

string originalString = "This program is supposed to automate the translation Input to the program will be several English sentences";

Console.Write(PigLatinTranslation(originalString));

Console.ReadLine();

}

**14 -** struct Clock

{

public int hour;

public int minute;

}

static void Main(string[] args)

{

Clock c1, c2, c3;

c1.hour = Convert.ToInt16(Console.ReadLine());

c1.minute = Convert.ToInt16(Console.ReadLine());

c2.hour = Convert.ToInt16(Console.ReadLine());

c2.minute = Convert.ToInt16(Console.ReadLine());

// kullanıcıdan alınan değerlerin doğru olup olmadığı burada if ile kontrol edilmeli !

c3.minute = c1.minute + c2.minute;

c3.hour = c1.hour + c2.hour;

if (c3.minute >= 60)

{

c3.minute = c3.minute % 60;

c3.hour++;

}

Console.Write(c3.hour + "' " + c3.minute + "''");

Console.ReadLine();