

```

using System;
using System.Collections.Generic;
using System.Linq;

namespace MyConsoleCSElisa
{
    class Program
    {
        private static List<KeyWord> Keywords = new List<KeyWord> {
            new KeyWord { Category = 1, Word = "Bruder" }, new KeyWord { Category = 1, Word = "Vater" }, new KeyWord { Category
                = 1, Word = "Sohn" }, new KeyWord { Category = 1, Word = "Opa" }, new KeyWord { Category = 1, Word =
                    "Freund" },
            new KeyWord { Category = 2, Word = "Mutter" }, new KeyWord { Category = 2, Word = "Schwester" }, new KeyWord {
                Category = 2, Word = "Tochter" }, new KeyWord { Category = 2, Word = "Oma" },
            new KeyWord { Category = 3, Word = "Gewalt" }, new KeyWord { Category = 3, Word = "Druck" }, new KeyWord { Category
                = 3, Word = "Schweigen" } };

        private static List<Answer> Answers = new List<Answer> {
            /* 0 */ new Answer { Counter = 0, AnswerSentence = "Dein {0} ist Dir sehr wichtig, nicht war?" },
            /* 1 */ new Answer { Counter = 0, AnswerSentence = "Haettest Du darueber nicht mit Deinem {0} sprechen sollen?" },
            /* 2 */ new Answer { Counter = 0, AnswerSentence = "Erzaehle mir mehr über die Beziehung zu Deinem {0}!" },
            /* 3 */ new Answer { Counter = 0, AnswerSentence = "Deine {0} ist Dir sehr wichtig, nicht wahr?" },
            /* 4 */ new Answer { Counter = 0, AnswerSentence = "Haettest Du darueber nicht mit Deiner {0} sprechen sollen?" },
            /* 5 */ new Answer { Counter = 0, AnswerSentence = "Erzaehle mir mehr ueber die Beziehung zu Deiner {0}!" },
            /* 6 */ new Answer { Counter = 0, AnswerSentence = "{0} ist keine echte Loesung." },
            /* 7 */ new Answer { Counter = 0, AnswerSentence = "Es ist nicht gut, mit {0} zu leben." },
            /* 8 */ new Answer { Counter = 0, AnswerSentence = "Sollte die Welt nicht auf {0} verzichten?" },
            /* 9 */ new Answer { Counter = 0, AnswerSentence = "Was bedeutet das eigentlich fuer Dich: {0}?" } };

        private static List<Binding> Bindings = new List<Binding> {
            new Binding { KeyWordCategory = 1, AnswersId = 0 }, new Binding { KeyWordCategory = 1, AnswersId = 1 }, new Binding
                { KeyWordCategory = 1, AnswersId = 2 },
            new Binding { KeyWordCategory = 2, AnswersId = 3 }, new Binding { KeyWordCategory = 2, AnswersId = 4 }, new Binding
                { KeyWordCategory = 2, AnswersId = 5 },
            new Binding { KeyWordCategory = 3, AnswersId = 6 }, new Binding { KeyWordCategory = 3, AnswersId = 7 }, new Binding
                { KeyWordCategory = 3, AnswersId = 8 },
            new Binding { KeyWordCategory = 1, AnswersId = 9 }, new Binding { KeyWordCategory = 2, AnswersId = 9 }, new Binding
                { KeyWordCategory = 3, AnswersId = 9 } };

        private static List<Phrase> Phrases = new List<Phrase> {
            new Phrase{Counter = 0, PhraseSentence = "Ich verstehe Deine Zurueckhaltung."},
            new Phrase{Counter = 0, PhraseSentence = "Soltest Du nicht offener von Dir reden?"},
            new Phrase{Counter = 0, PhraseSentence = "Was meinst Du, ist denn die Ursache von all dem?"},
            new Phrase{Counter = 0, PhraseSentence = "Kannst Du etwas paeziser werden?"},
            new Phrase{Counter = 0, PhraseSentence = "Du soltest nicht alles in Dich hineinfressen."},
            new Phrase{Counter = 0, PhraseSentence = "Fuehlst Du Dich in dieser Hinsicht unsicher?" } };

        private static Random _random = new Random();
        private static int _lastPhrase = -1;

        /// <summary>
        /// RandomDouble
        /// </summary>
        /// <param name="min"></param>
        /// <param name="max"></param>
        /// <param name="deci"></param>
        /// <returns></returns>
        private static double RandomDouble(double min, double max, int deci)
        {
            double d;
            d = _random.NextDouble() * (max - min) + min;
            return Math.Round(d, deci);
        }

        /// <summary>
        /// SegmentWordsLinq
        /// </summary>
        /// <param name="statement"></param>
        /// <returns></returns>
        private static List<string> SegmentWordsLinq(string statement)
        {
            List<string> words = new List<string>();

            words = statement.Split(' ').ToList();

            return words;
        }

        /// <summary>
        /// SegmentWordsSplit
        /// </summary>
        /// <param name="statement"></param>
        /// <returns></returns>
        private static List<string> SegmentWordsSplit(string statement)
        {
            List<string> words = new List<string>();

```

```

        string[] tokens = statement.Split(' ');
        for (int i = 0; i < tokens.Length; i++)
            words.Add(tokens[i]);

        return words;
    }

    /// <summary>
    /// DumpWordList
    /// </summary>
    /// <param name="words"></param>
    private static void DumpWordList(List<string> words)
    {
        Console.WriteLine(String.Format("STATEMENT:"));
        foreach (var w in words)
            Console.WriteLine(String.Format("{0} ", w));

        Console.WriteLine(String.Format("\nWORD LIST:"));
        foreach (var w in words)
            Console.WriteLine(String.Format("{0}", w));
    }

    /// <summary>
    /// SearchForAnswer
    /// </summary>
    /// <param name="words"></param>
    /// <returns></returns>
    private static string SearchForAnswer(List<string> words)
    {
        string answer;
        int answerId;

        foreach (var w in words)
            foreach (var k in Keywords)
                if (w == k.Word)
                {
                    int id = Keywords.IndexOf(k);
                    answerId = GetAnswerId(k.Category);
                    if (answerId >= 0)
                    {
                        answer = Answers[answerId].AnswerSentence;
                        answer = String.Format(answer, w);
                        Answers[answerId].Counter += 10;
                        return answer;
                    }
                }

        // We have no keyword
        answerId = GetPhraseId();
        answer = Phrases[answerId].PhraseSentence;
        Phrases[answerId].Counter += 10;
        return answer;
    }

    /// <summary>
    /// GetPhraseId
    /// </summary>
    /// <returns></returns>
    private static int GetPhraseId()
    {
        int id = _lastPhrase;

        // repeat as long as it's not the same phrase as before
        while (id == _lastPhrase)
            id = (int)RandomDouble(0, Phrases.Count - 1, 0);
        _lastPhrase = id;

        Phrases[id].Counter++;

        return id;
    }

    /// <summary>
    /// GetAnswerId
    /// </summary>
    /// <param name="id"></param>
    /// <returns></returns>
    private static int GetAnswerId(int id)
    {
        int min = Int32.MaxValue;
        int minID = -1;
        int answerId = -1;

        foreach (var b in Bindings)
            if (id == b.KeyWordCategory)
            {

```

```

        answerId = b.AnswersId;
        if(min > Answers[answerId].Counter)
        {
            minID = answerId;
            min = Answers[answerId].Counter;
            --Answers[answerId].Counter;
        }
    }

    return minID;
}

/// <summary>
/// Main
/// </summary>
/// <param name="args"></param>
static void Main(string[] args)
{
    Console.WriteLine("Program MyConsoleCSElisa type [Ctrl] [C] to Exit and /? on command line for help");
    Console.WriteLine(String.Format("uhwgmxxorg Version {0}\n",
        System.Reflection.Assembly.GetExecutingAssembly().GetName().Version));

    string statement;
    string answer;
    List<string> words;

    ProcessCommandLineOptions(args);

    Console.WriteLine("Sag was :-)\n");

    while (true)
    {
        statement = Console.ReadLine();
        words = SegmentWordsSplit(statement);
        answer = SearchForAnswer(words);
        Console.WriteLine(answer);
    }
}

/// <summary>
/// ProcessCommandLineOptions
/// </summary>
/// <param name="cmdLine"></param>
private static void ProcessCommandLineOptions(string[] cmdLine)
{
    foreach (var c in cmdLine)
    {
        if (c.Contains("/?"))
        {
            Console.WriteLine("Use:");
            Console.WriteLine("  MyConsoleCSElisa /? for help");
            Console.WriteLine("  MyConsoleCSElisa /k for show keywords");
            Environment.Exit(1);
        }
        if (c.Contains("/k"))
        {
            Console.WriteLine("You can use:");
            foreach (var k in Keywords)
            {
                Console.WriteLine(String.Format("{0} | ", k.Word));
            }
            Console.WriteLine("\nas keywords in a question/answer to Elisa\n");
        }
    }
}

public class KeyWord
{
    public int Category { get; set; }
    public string Word { get; set; }
}

public class Answer
{
    public int Counter { get; set; }
    public string AnswerSentence { get; set; }
}

public class Binding
{
    public int KeyWordCategory { get; set; }
    public int AnswersId { get; set; }
}

public class Phrase
{
    public int Counter { get; set; }
    public string PhraseSentence { get; set; }
}

```