A close up of text on a white background

Description automatically generated

A close up of text on a white background

Description automatically generated

A screenshot of text

Description automatically generated

A close up of text on a white background

Description automatically generated

A screenshot of a cell phone

Description automatically generated

**Programming Problem #1**

using System;

using static System.Console;

class CountVowelsProgram

{

public static void Main(string[] args)

{

string entry;

int vowelCount;

bool flag = true;

while (flag)

{

WriteLine("Enter a phrase: ");

entry = ReadLine().ToLower(); //phrase for checking vowels...

vowelCount = CountVowels(entry);

WriteLine("\nThere are {0} vowels in that phrase.", vowelCount);

WriteLine("Enter 'q' to quit the program: ");

entry = ReadLine();

char.TryParse(entry, out char result); //check if user enters char data type...

{

if (result == 'q' || result == 'Q') //cannot use result.ToLower() in TryParse...

{

flag = false;

}

else

{

flag = true;

}

}

Console.Clear(); //clear screen between outputs...

}

WriteLine("You quit the program...goodbye");

ReadLine(); //pauses for viewing output...

}

public static int CountVowels(string phrase)

{

int count = 0;

bool vowelChecker = false;

for (int i = 0; i < phrase.Length; i++) //phrase.Length means no array(s) needed for phrase input...

{

if (phrase[i] == 'a' || phrase[i] == 'e' ||

phrase[i] == 'i' || phrase[i] == 'o' || phrase[i] == 'u')

{

vowelChecker = true;

}

else

{

vowelChecker = false;

}

if (vowelChecker)

{

count++;

}

}

return count;

}

}

**Programming Problem #2**

using System;

using static System.Console;

class FlexibleArrayMethodProgram

{

public static void Main()

{

int[] array1 = new int[5];

int[] array2 = new int[7];

int[] array3 = new int[10];

int sum1;

int sum2;

int sum3;

int total;

string sumMessage1 = "The sum of array ";

string sumMessage2 = " is:";

int count = 1;

int garbageNum;

char quitKey;

do

{

sum1 = FindSum(count, sumMessage1, sumMessage2, array1);

count++;

sum2 = FindSum(count, sumMessage1, sumMessage2, array2);

count++;

sum3 = FindSum(count, sumMessage1, sumMessage2, array3);

count++;

garbageNum = FindSum(count, sumMessage1, sumMessage2, array3);

total = sum1 + sum2 + sum3;

WriteLine(total);

WriteLine("Type 'q' to quit the program: ");

quitKey = Convert.ToChar(ReadLine());

} while (quitKey != 'q' || quitKey != 'Q');

Clear();

WriteLine("You quit the program.");

ReadLine();

}

public static int FindSum(int count, string mes1, string mes2, params int[] array)

{

int result = 0;

if (count < 4)

{

Write("Enter ");

Write(array.Length);

WriteLine(" numbers: ");

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

{

array[i] = Convert.ToInt32(ReadLine());

}

WriteLine();

Write("Array ");

Write(count);

WriteLine(" info...");

Write("Numbers in array ");

Write(count);

WriteLine(" are:");

foreach (int num in array)

{

Write(num);

Write(" ");

result += num;

}

WriteLine();

Write(mes1);

Write(count);

WriteLine(mes2);

WriteLine(result);

WriteLine();

}

else

{

Write("The total sum of all arrays is ");

}

return result;

}

}

**Programming Problem #2**

using System;

using static System.Console;

class TestClassidiedAd

{

static void Main()

{

ClassifiedAd obj1 = new ClassifiedAd("Colgate", 1);

ClassifiedAd obj2 = new ClassifiedAd("Nationwide is on your side", 5);

string quitKey;

Display("Sample Advertisement: ", obj1);

WriteLine();

obj1.DisplayPrice(obj1.Advertisement, obj1.Price);

WriteLine();

Display("Sample Advertisement: ", obj2);

WriteLine();

obj2.DisplayPrice(obj2.Advertisement, obj2.Price);

WriteLine();

do

{

WriteLine("Enter your ad here: ");

ClassifiedAd obj3 = new ClassifiedAd(ReadLine());

WriteLine();

obj3.DisplayPrice(obj3.Advertisement, obj3.Price);

WriteLine();

WriteLine("Would you like to enter another ad? If not, type 'quit' to exit: ");

quitKey = ReadLine().ToLower();

Console.Clear();

} while (quitKey != "quit");

WriteLine("You chose to quit the program");

ReadLine();

}

static void Display(string message, ClassifiedAd ad)

{

WriteLine(message);

WriteLine(ad.Advertisement);

}

}

class ClassifiedAd

{

public ClassifiedAd(string advert)

{

Advertisement = advert;

int wordCount = 1;

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

{

if (advert[i] == ' ')

{

wordCount++;

}

}

Price = wordCount \* 0.09;

}

public ClassifiedAd(string advert, int words)

{

Advertisement = advert;

Price = words \* 0.09;

}

public string Advertisement

{

get;

set;

}

public double Price

{

get;

}

public void DisplayPrice(string advert, double price)

{

WriteLine("\*\*\* Advertisement: ''{0}'' will cost ${1} \*\*\*", advert, price);

}

}