/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 1: Develop a program to count numbers greater than less then or equal to a number 'k' in an array \*/

#include<stdio.h>

int main()

{

    int n,arr[50],num;

    int c1=0,c2=0,c3=0;

    printf("Enter The number of Element: ");

    scanf("%d",&n);

    printf("Enter The Elements: \n");

    for (int i = 0; i < n; i++)

    {

        scanf("%d",&arr[i]);

    }

    printf("Enter The Vlaue of K: ");

    scanf("%d",&num);

    for (int i = 0; i < n; i++)

    {

        if(arr[i]>num)

        {

            c1++;

        }

        if(arr[i]<num)

        {

            c2++;

        }

        if(arr[i]==num)

        {

            c3++;

        }

    }

    printf("The number of grater Element: %d\n",c1);

    printf("The number of smallest Element: %d\n",c2);

    printf("The number of equal Element: %d\n",c3);

    return 0;

}

Sample Input:

Enter The number of Element: 6

Enter The Elements:

5 7 8 9 6 2

Enter The Vlaue of K: 8

Sample Output:

The number of greater Element: 1

The number of smallest Element: 4

The number of equal Element: 1

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 2:Develop the program to merge the element of two sorted array so the

resulting array also shorted. \*/

#include<stdio.h>

int main()

{

    int n,arr1[50],arr2[50],arr3[50],temp;

    printf("Enter The number of Element: ");

    scanf("%d",&n);

    printf("Enter The Frist array Elements: \n");

    for (int i = 0; i < n; i++)

    {

        scanf("%d",&arr1[i]);

    }

    printf("Enter The Second array Elements: \n");

    for (int i = 0; i < n; i++)

    {

        scanf("%d",&arr2[i]);

    }

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

    {

        arr1[i]=arr2[j];

    }

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

    {

        for (int j = 0; j < n+n; j++)

        {

            if(arr1[j]>arr1[j+1])

            {

                temp=arr1[j];

                arr1[j]=arr1[j+1];

                arr1[j+1]=temp;

            }

        }

    }

    printf("After Merging the Elements is: \n");

    for (int k = 0; k < n+n; k++)

    {

        printf("%d ",arr1[k]);

    }

    return 0;

}

Sample Input:

Enter The number of Element: 6

Enter The First array Elements:

2 5 6 4 2 3

Enter The Second array Elements:

4 8 5 6 7 8

Sample Input:

After Merging the Elements is:

2 2 3 4 4 5 5 6 6 7 8 8

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 3:Develop a program to give a transpose of a given matrix.\*/

#include<stdio.h>

int main()

{

    int rows,colluns,arr[50][50];

    printf("number of rows: ");

    scanf("%d",&rows);

    printf("number of colluns: ");

    scanf("%d",&colluns);

    printf("Enter The Elements: ");

    for (int i = 0; i < rows; i++)

    {

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

        {

            scanf("%d",&arr[i][j]);

        }

    }

    printf("The matrix Elements:\n");

    for (int i = 0; i < rows; i++)

    {

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

        {

            printf("%d ",arr[i][j]);

        }

        printf("\n");

    }

printf("The Transpose matrix Elements:\n");

    for (int i = 0; i < rows; i++)

    {

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

        {

            printf("%d ",arr[j][i]);

        }

        printf("\n");

    }

    return 0;

}

Sample Input:

number of rows: 3

number of columns: 3

Enter The Elements: 7 8 9 5 6 4 2 3 2

Sample Input:

The matrix Elements:

7 8 9

5 6 4

2 3 2

The Transpose matrix Elements:

7 5 2

8 6 3

9 4 2

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 4:Develop to program test whether a given matrix is an upper traingular

matrix or not. an upper traingular matrix is on in which all the element in below its

principal diaganol are 0. \*/

#include<stdio.h>

int main()

{

    int rows,columns,arr[50][50],flag=0;

    printf("number of rows: ");

    scanf("%d",&rows);

    printf("number of colluns: ");

    scanf("%d",&columns);

    printf("Enter The Elements: ");

    for (int i = 0; i < rows; i++)

    {

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

        {

            scanf("%d",&arr[i][j]);

        }

    }

    for (int i = 0; i < rows; i++)

    {

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

        {

            if(i>j&&arr[i][j]!=0)

            {

                flag=1;

                break;

            }

        }

    }

    if(flag==0)

    {

        printf("Upper Traingular matrix ");

    }

    else

    {

        printf("Not a Upper Traingular matrix");

    }

    return 0;

}

Sample Input-1

number of rows: 3

number of colluns: 3

Enter The Elements: 2 7 8 9 6 5 3 4 2

Sample Output-1

Not a Upper Traingular matrix

Sample Input-2

number of rows: 2

number of columns: 2

Enter The Elements: 0 2 0 0

Sample Output-2

Upper Traingular matrix

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 5:Devlop a program to concatenate two string and dispaly the concatenate string in output screen. \*/

#include<stdio.h>

#include<string.h>

int main()

{

    char str1[50],str2[50];

    printf("Enter The Frist String: ");

    scanf("%s",str1);

    printf("Enter The second String: ");

    scanf("%s",str2);

    strcat(str1,str2);

    printf("The concatenate string is: %s",str1);

    return 0;

}

Sample Input:

Enter The Frist String: Anuj

Enter The second String: Bhatt

Sample Output:

The concatenate string is: AnujBhatt

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 6:Develop a program to compare two string using a function and return 1

if the string are equal and 0 otherwise. Display The appropriate message to the output

screen. \*/

#include<stdio.h>

int compare(char str1[],char str2[]);

int main()

{

    int num;

    char str1[50],str2[50];

    printf("Enter The First String: ");

    scanf("%s",str1);

    printf("Enter The second String: ");

    scanf("%s",str2);

    num=compare(str1,str2);

    if(num==0)

    {

        printf("Both String are Equal");

    }

    else

    {

        printf("Both string not Equal");

    }

}

int compare(char str1[],char str2[])

{

    int length=0,flag=1;

    for (int i = 0;str1[i]!='\0';i++)

    {

        length++;

    }

    for (int j = 0; j < length; j++)

    {

        if(str1[j]==str2[j])

        {

            flag=0;

        }

    }

    if(flag==0)

    {

        return 0;

    }

    else

    {

        return 1;

    }

}

Sample Input-1 :

Enter The First String: Anuj

Enter The second String: Anuj

Sample Output-1 :

Both String are Equal

Sample Input-2 :

Enter The First String: Harish

Enter The second String: Rohan

Sample Output-2 :

Both string not Equal

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 7:Devlope a program to find the number of occurrence each alphabet in a given string ans display the same to the output screen. assume that the string contain only alphabets. \*/

#include<stdio.h>

int main()

{

    char str[50];

    int count=0;

    printf("Enter The string: ");

    scanf("%s",str);

    for (int i ='a'; i < 'z'; i++)

    {

        count=0;

        for (int j = 0;str[j]!='\0'; j++)

        {

            if(i==str[j])

            {

                count++;

            }

        }

        if(count!=0)

        {

            printf("%c Found: %d Times\n",i,count);

        }

    }

    return 0;

}

Sample Input:-

Enter The string:harishsemwal

Sample Output :-

a Found: 2 Times

e Found: 1 Times

h Found: 2 Times

i Found: 1 Times

l Found: 1 Times

m Found: 1 Times

r Found: 1 Times

s Found: 2 Times

w Found: 1 Times

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 8:Develop a program using a function to swap two numbers without using

temporary variable. Display the swapped numbers in calling program (pointer) \*/

#include<stdio.h>

int swap(int \*ptr1,int \*ptr2);

int main()

{

    int a,b;

    printf("Enter The Frist number: ");

    scanf("%d",&a);

    printf("Enter The Second number: ");

    scanf("%d",&b);

    printf("Before Swaping\na : %d and b : %d\n",a,b);

    swap(&a,&b);

    printf("After swaping\na : %d and b : %d\n",a,b);

}

int swap(int \*ptr1,int \*ptr2)

{

    int sum;

    sum = \*ptr1+\*ptr2;

    \*ptr1= sum - \*ptr1;

    \*ptr2= sum - \*ptr2;

}

Sample Input :-

Enter The Frist number: 5

Enter The Second number: 6

Sample Output:-

Before Swaping

a : 5 and b : 6

After swaping

a : 6 and b : 5

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 9:write a c program to accspt & store N real numbers into an

array.find there standard deviation using pointer and display it. \*/

#include <stdio.h>

#include <math.h>

int main()

{

    float a[10], \*ptr, mean, sum = 0, var, sumstd = 0, std;

    int n, i;

    printf("Enter the number of elements: \n");

    scanf("%d",&n);

    printf("Enter the array elements\n");

    for (i = 0; i < n; i++)

    {

        scanf("%f", &a[i]);

    }

    ptr = a;

    for (i = 0; i < n; i++)

    {

        sum = sum + (\*ptr);

        ptr++;

    }

    mean = sum / n;

    ptr = a;

for (i = 0; i < n; i++)

    {

        sumstd = sumstd + pow((\*ptr-mean), 2);

        ptr++;

    }

    var = sumstd / n;

    std = sqrt(var);

    printf("Standard Deviation = %f", std);

    return 0;

}

Sample Input :-

Enter the number of elements: 5

Sample Input :-

Enter the array elements

55 88 99 65 32

Standard Deviation = 23.810921

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 10:Develop a program to reverse string using pointer Display the reverse string to the console (pointer) \*/

#include<stdio.h>

int main()

{

    int length=0;

    char str[50],\*ptr,temp;

    printf("Enter The string: ");

    scanf("%s",str);

    ptr=str;

    for (int i = 0; \*ptr!='\0'; i++)

    {

        length++;

        ptr++;

    }

    printf("The reverse String is: ");

    for (int i = length;i>=0; i--)

    {

        printf("%c",\*ptr--);

    }

    return 0;

}

Sample Input :

Enter The string: anujbhatt

Sample Output

The reverse String is: ttahbjuna

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 11:Develop the program to find the total and average seles done

 by N employees (empcode,emp name,emp seles) using of array of stracture \*/

#include<stdio.h>

struct employee

{

    char name[50];

    char code[50];

    float seles;

};

int main()

{

    int n;

    float sum,average=0;

    printf("Enter The number of Emplyoee: ");

    scanf("%d",&n);

    struct employee emp[n];

    for (int i = 0; i < n; i++)

    {

        printf("Enter The name employee %d: ",i+1);

        scanf("%s",emp[i].name);

        printf("Enter The code employee %d: ",i+1);

        scanf("%s",emp[i].code);

        printf("Enter The seles employee %d: ",i+1);

        scanf("%f",&emp[i].seles);

    }

for (int i = 0; i < n; i++

{

        sum=sum+emp[i].seles;

    }

    average=sum/n;

    printf("The sum of Total seles is: %0.2f\n",sum);

    printf("The average seles is: %0.2f\n",average);

    return 0;

}

Sample Input :

Enter The number of Emplyoee: 5

Enter The name employee 1: harish

Enter The code employee 1: JS455

Enter The seles employee 1: 789555

Enter The name employee 2: Rohan

Enter The code employee 2: DSA78

Enter The seles employee 2: 50000

Enter The name employee 3: Ajay

Enter The code employee 3: 555SW

Enter The seles employee 3: 30000

Enter The name employee 4: Shubham

Enter The code employee 4: YSX783

Enter The seles employee 4: 70000

Enter The name employee 5: Sarthak

Enter The code employee 5: SHDJ879

Enter The seles employee 5: 75000

The sum of Total seles is: 1014555.00

Sample Output :

The average seles is: **202911.00**

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 12:Develop a programe to read and print set of name,roll number,date of birth and date of addmision of 'N' students in the college where date of addmission consists of three members such as day month and year as seprated

strcture.  \*/

#include<stdio.h>

struct student

{

    char name[50];

    int rollnumber;

    struct date\_of\_admission doa;

    struct date\_of\_birth dob;

};

struct date\_of\_addmission

{

    int dd,mm,yy;

};

struct date\_of\_birth

{

    int dd,mm,yy;

};

int main()

{

    int n;

    printf("Enter The number of student: ");

    scanf("%d",&n);

    struct student std[n];

    for (int i = 0; i < n; i++)

    {

        printf("Enter The name student:  %d: ",i+1);

        scanf("%s",std[i].name);

        printf("Enter The roll number student:  %d: ",i+1);

        scanf("%d",&std[i].rollnumber);

    }

    for (int i = 0; i < n; i++)

    {

        printf("Enter The date of Birth of Student %d: ",i+1);

        scanf("%d%d%d",&std[i].dob.dd,&std[i].dob.mm,&std[i].dob.yy);

    }

    for (int i = 0; i < n; i++)

    {

        printf("Enter The date of addmision of Student %d: ",i+1);

        scanf("%d%d%d",&std[i].doa.dd,&std[i].doa.mm,&std[i].doa.yy);

    }

    printf("The Total Details of Students is: \n");

    for (int i = 0; i < n; i++)

    {

        printf("name: %s\trollnumber: %d\tDOB: %d/%d/%d\tDOA: %d/%d/%d",std[i].name,std[i].rollnumber,std[i].dob.dd,std[i].dob.mm,std[i].dob.yy,std[i].doa.dd,std[i].doa.mm,std[i].doa.yy);

    }

    return 0;

}

**Sample Input:-**

Enter The number of student: 3

Enter The name student: 1: rohan

Enter The roll number student: 1: 27

Enter The name student: 2: Shubham

Enter The roll number student: 2: 65

Enter The name student: 3: Sarthak

Enter The roll number student: 3: 63

Enter The date of Birth of Student 1: 10 01 2004

Enter The date of Birth of Student 2: 10 02 2004

Enter The date of Birth of Student 3: 10 03 2004

Enter The date of addmision of Student 1: 05 05 2021

Enter The date of addmision of Student 2: 05 06 2021

Enter The date of addmision of Student 3: 05 07 2021

**Sample Output :-**

The Total Details of Students is:

name: rohan rollnumber: 27 DOB: 10/1/2004 DOA: 5/5/2021

name: Shubham rollnumber: 65 DOB: 10/2/2004 DOA: 5/6/2021

name: Sarthak rollnumber: 63 DOB: 10/3/2004 DOA: 5/7/2021

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* Question 13:Write a program to create a file with three paragraphs. Display the contents and count the number of vowels and consonants in the file. Display the count on the standard output.  \*/

#include<stdio.h>

#include<ctype.h>

#include<stdlib.h>

int main()

{

    FILE \*fptr;

    char ch;

    int count1=0,count2=0;

    fptr=fopen("sample.txt","r");

    if(fptr==NULL)

    {

        printf("File Dose Not exits !!");

        exit(0);

    }

    else

    {

        ch=fgetc(fptr);

        while(ch!=EOF)

        {

            if(ch!=' ')

            {

                if(ch=='a'||ch=='e'||ch=='i'||ch=='o'||ch=='u'||ch=='A'||

ch=='E'||ch=='I'||ch=='O'||ch=='U')

                {

                    count1=count1+1;

                }

                else

                {

                    count2=count2+1;

                }

            }

            ch=fgetc(fptr);

        }

        printf("Number of Vowel: %d\n",count1);

        printf("Number of Consonent: %d\n",count2);

        return 0;

    }

}

**Sample Input :**

Write short paragraphs and cover one topic per paragraph. Long paragraphs discourage

users from even trying to understand your material. Short paragraphs are easier to

read and understand.

Writing experts recommend paragraphs of no more than 150 words in three to eight sentences.

Paragraphs should never be longer than 250 words. Vary the lengths of your paragraphs to make

them more interesting. As with sentence length, if all paragraphs are the same size your writing will be choppy.

There is nothing wrong with an occasional one-sentence paragraph.

Using short paragraphs is an ideal way to open up your writing and create white space.

In turn, this makes your writing more inviting and easier to read.

**Sample Output:**

Number of Vowel: 211

Number of Consonent: 392

/\* NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

/\* **Question 14:**Write a program to create a file and copy its contents to another file such that there is no space between the words in the copied file.Display the contents of the newly copied file on the output screen.  \*/

#include<stdio.h>

#include<stdlib.h>

#include<ctype.h>

int main()

{

    FILE \*fptr1,\*fptr2;

    char ch;

    fptr1=fopen("firstfile.txt","r");

    fptr2=fopen("secondfile.txt","w");

    if(fptr1==NULL&&fptr2==NULL)

    {

        printf("File Does not exits !!");

        exit(0);

    }

else

    {

        ch=fgetc(fptr1);

        while(ch!=EOF)

        {

            if(!isspace(ch))

            {

                fprintf(fptr2,"%c",ch);

            }

            ch=fgetc(fptr1);

        }

    }

    return 0;

}

Sample Input :-

A paragraph is a series of sentences that are organized and coherent,

and are all related to a single topic. Almost every piece of writing you

do that is longer than a few sentences should be organized into paragraphs.

Sample Output :-

Aparagraphisaseriesofsentencesthatareorganizedandcoherent,andareallrelatedtoasingletopic.Almosteverypieceofwritingyoudothatislongerthanafewsentencesshouldbeorganizedintoparagraphs.

'''NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

**Question 15:**Write a program in python to sum the numbers in a list containing numbers and strings.'''

lst = [1, '10', 'Hello', '2020', 'Python@2020', 2021]

total = 0

for element in lst:

    if isinstance(element, int) or element.isdigit():

        total += int(element)

print("The sum of Elements is: ",total)

Sample Input:

lst=[1,'10','Hello',2020,'Python@2020',2021]

Sample Ouput:

The sum of Elements is: 4052

'''NAME:ANUJ KANT BHATT

SECTION-R ROLL NUMBER-14 SUB:PCS 251 \*/

**Question 16:**Write a python program to read an entire

text file and display each word on to the screen.'''

with open('sampleee.txt','r') as file:

    for line in file:

        for word in line.split():

            print(word)

**Sample Input:**

My name is Anuj Kant Bhatt

**Sample Output:**

My

name

is

Anuj

Kant

Bhatt