Answers

Q.1

Output - 1 0
90

Cause - We have two arrays. One is in main() and another one is a global array. When array is not initialised until it's max size then remaining values will set 0 by default.

Q.2

Output - 052415

Cause - First 0 is an uninitialised part of an array. If we try to access the over limit value of an array then it will give an garbage value.

Q.3

Output - hey

Cause - In switch() function set of instructions will start executing when it is laid down after any case.

Q.4

Output - Firstly no output.

Cause - As we know that char has only 8 bits to store so when we try to increment ch by 1 then the value will be 256. ch can't store 256 because for storing 256 we need 9 bits so ch will become 0 and MSB1 will be cleared. But when the while condition remains (ch++ != 0),then infinite loop runs and it will print a number of character sequences continuously that's ASCII value is odd.

Q.5

Ans - "Hello" will not print because x is initialised by -1. For loop will run continue statement until x < 5 and Hello statement lies after the continue statement so it will not work. When x > 5 loop will terminate.

Q.6

Output - 2 // array address can be accessed like this.
lo // when we add some int to string, string will print from that position.
hi // program treat \0 as string end so it will only print hi.
8 // By default any decimal value is treated like double & Size of double is 8.

Q.7

Output - unequal

Cause - Because we are trying to check equality of these two arrays' base addresses.

Q.8

Output - Value of count1 is1
Value of count2 is1
Value of count1 is2
Value of count2 is1
Value of count1 is3
Value of count2 is1

Cause - Static variables carry their previous values.

Q.9

Ans - It will give an error because we are trying to increment a

memory constant that is not right. If we write i = max + 1; then output will be 6.

Q.10

Output - 7

Cause - The assignment operator takes first expression of comma operator in a but when we use parentheses it will take last expression for assigning.

Q.11

Output - C++programming

Cause - When program runs, cout statement is performed and if value becomes true so the if statement is also performed.

Q.12

Output - a

Cause- When we assign 0141 or 0x61 to char c then we get ‘a’ in the output.

Q.13

Output - 1

Cause - When program runs,the ternary operator decrease the value of i by 1.When again this instruction performs the value of i becomes 0.So the while() condition becomes false.

Q.14

Output - 5
2

Cause - We continuously call r() function so the value of num being returned and decremented by 1. Variable num is a static variable. For loop will stop when num will be returned 0 in condition.

Q.15

Ans.- (f) void f(int a) is an invalid function prototype for an array. In other cases we can access the array at the limit in function as we want.

Q.16

Output - 3
4

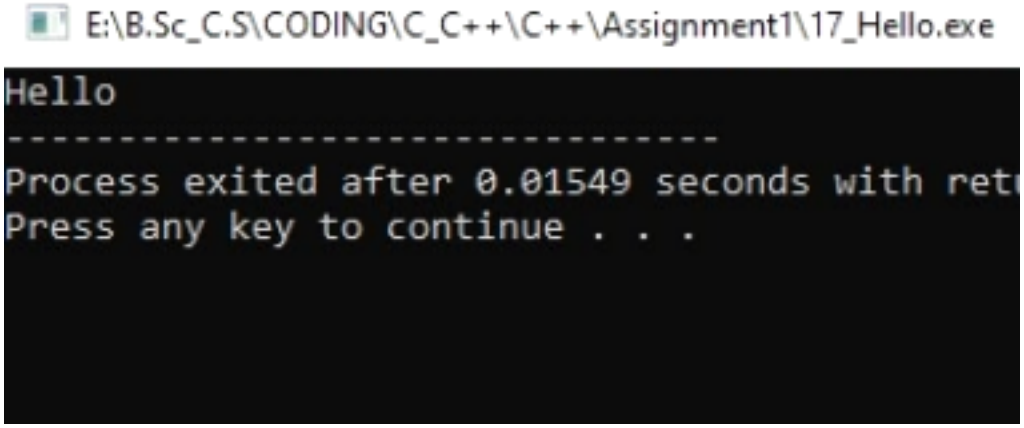
Cause - Variable str is a character array and it has 3 characters. But str1 is a string. It has 3 characters but it also has a null terminating character “\0”. So the string size will be 4.

Q.17

Code -

```
#include <iostream>
using namespace std;
int main()
{
	if(cout << "Hello"){
	}
}
```

Output -



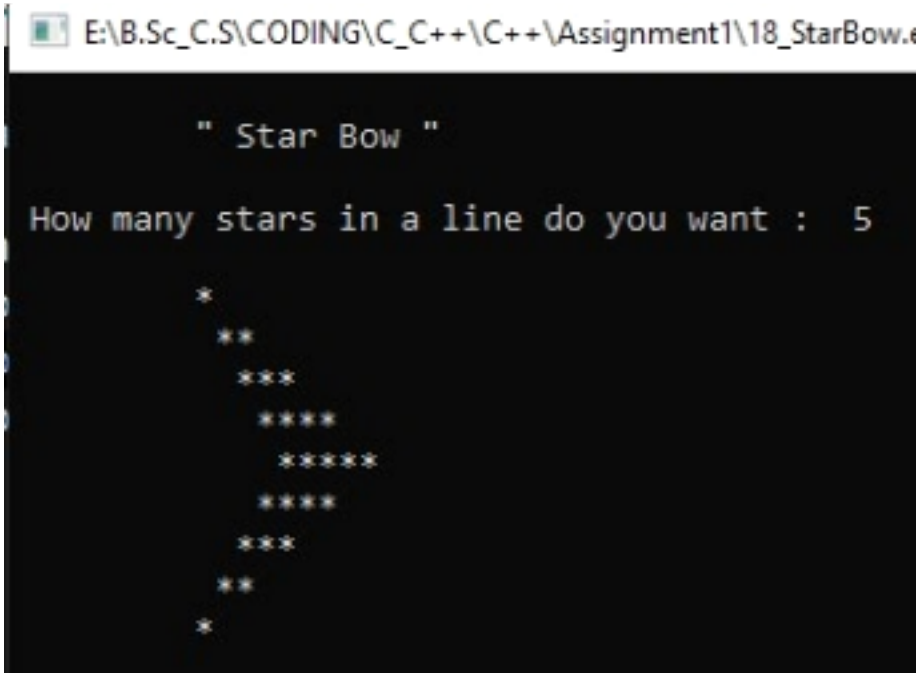
Q.18

Code -

```
#include <iostream>
using namespace std;
int main()
{
	short int num;
	bool revLoop = false;

	cout << "\n\t \" Star Bow \" ";
	do{
		cout << "\n\n How many stars in a line do you want :  ";
		cin >> num;
		if(num <= 0)
			cout << "\n Enter a positive number. \n";
	  }while(num <= 0);
	 cout << endl;
	 for(int i = 1 ;i != 0; )
	{
		cout << "\t";
		for(int j = 1; j <= i; j++)
			cout << " ";
		for(int k = 0; k < i; k++)
			cout << "*";
		cout << endl;
		if(i == num)
			revLoop = true;

		revLoop ? i-- : i++;
```

```
    }
}
```

Output -



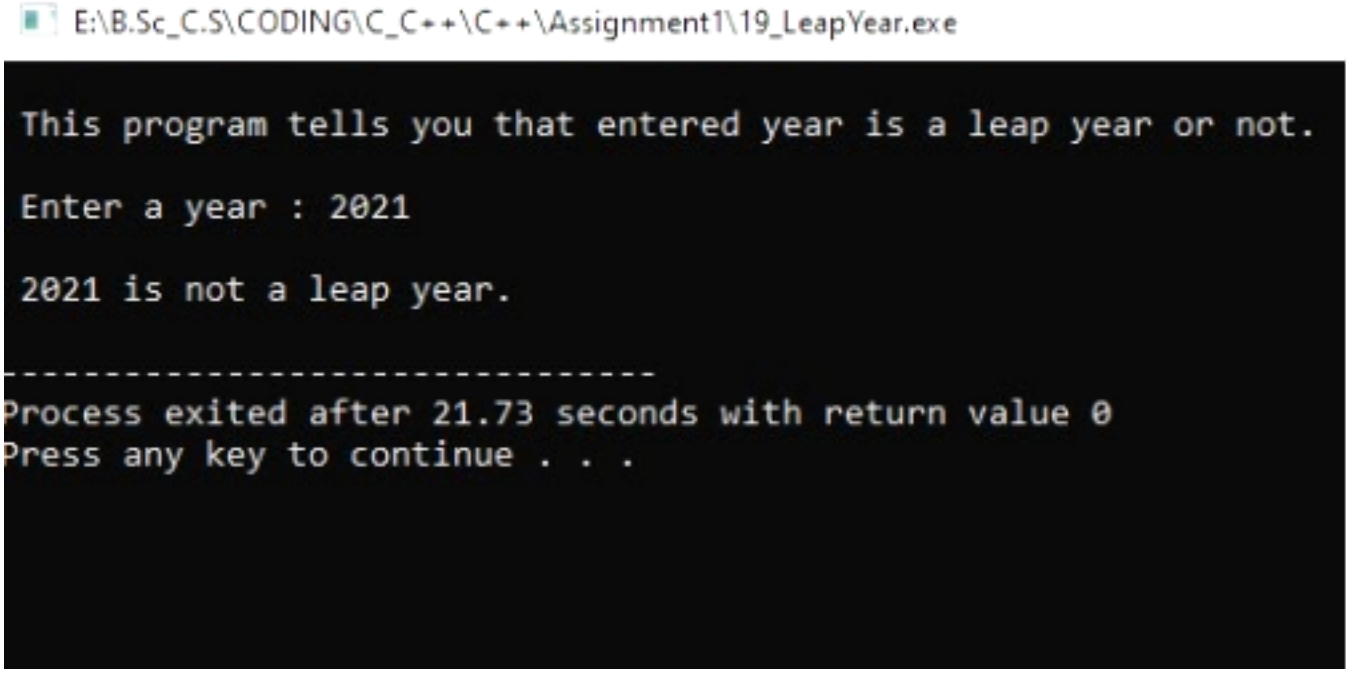
<u>Q.19</u>

Code -

```
#include <iostream>
using namespace std;
int main()
{
        int year;
        cout << "\n This program tells you that entered year is a
                leap year or not.";
        do
```

```
        {
            cout << "\n\n Enter a year : ";
            cin >> year;
            if(year < 0)
                cout << "\n Year can not be negative." << endl;
        }while(year < 0);

        if(year % 4)
            cout << "\n " << year << " is not a leap year.";
        else
            cout << "\n " << year << " is a leap year.";
}
```

Output -



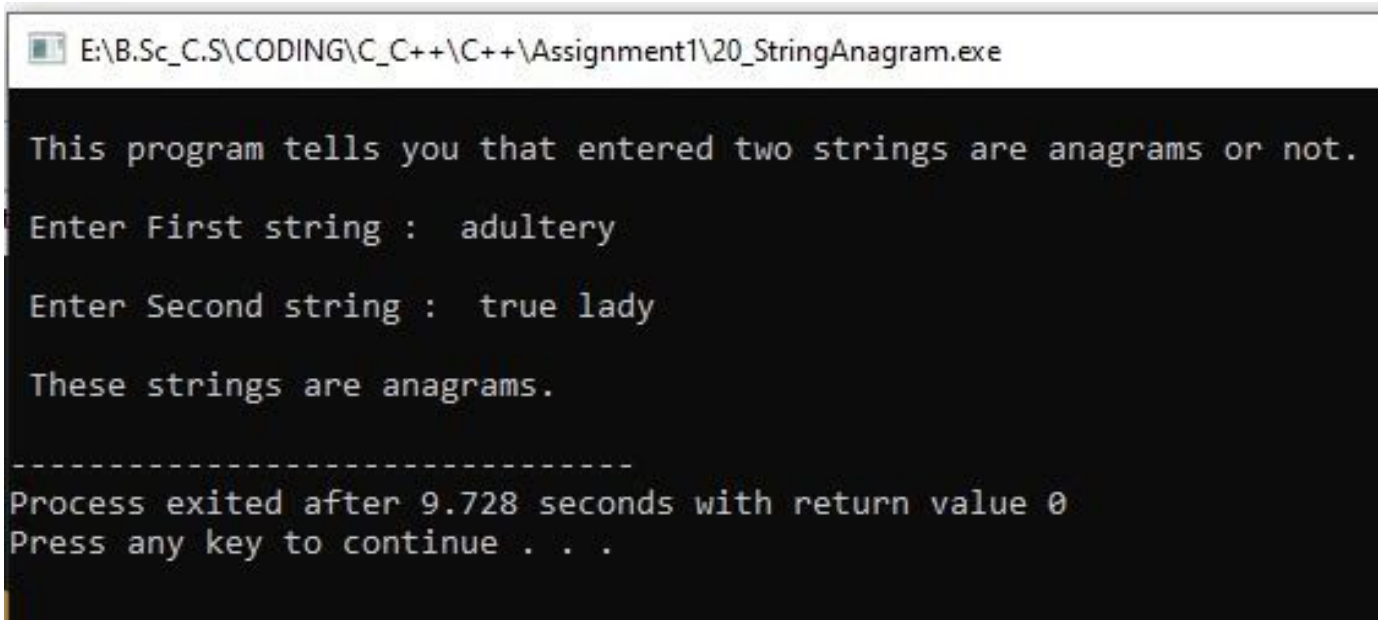
Q.20

Code -

```
#include <iostream>
using namespace std;
int rmv_(string &s)
{
	short int _n = 0;
	for(int i = 0; s[i] != '\0'; i++)
	{
		if(s[i] == ' ')
		{
			for(int j = i; s[j] != '\0' ;j++)
				s[j] = s[j+1];
			_n--;
		}
	}
	return (s.length() + _n);
}
int main()
{
	string str , str1;
	short int len = 0 ,len1 = 0;
	bool anag;

	cout << "\n\t This program tells you that entered two strings
			are anagrams or not.";
	cout << "\n\n Enter First string :  ";
	getline(cin , str);
	cout << "\n Enter Second string :  ";
	getline(cin , str1);
	// calculating length after removing all spaces
```

```
len = rmv_(str);
len1 = rmv_(str1);

if(len != len1)
        cout << "\n These strings are not anagrams." << endl;
else
{
        for(int i = 0 ; i < len; i++){
                for(int j = 0; j < len; j++){
                        anag = (str[i] == str1[j]);
                        if(anag)
                                break;
                  }
                 if(!anag)
                        break;
                for(int k = 0 ; k < len; k++){
                        anag = (str1[i] == str[k]);
                        if(anag)
                                break;
                }
                if(!anag)
                        break;
         }
        if(anag)
                cout << "\n These strings are anagrams." << endl;
        else
            cout << "\n These strings are not anagrams."<< endl;
        }
}
```

Output -



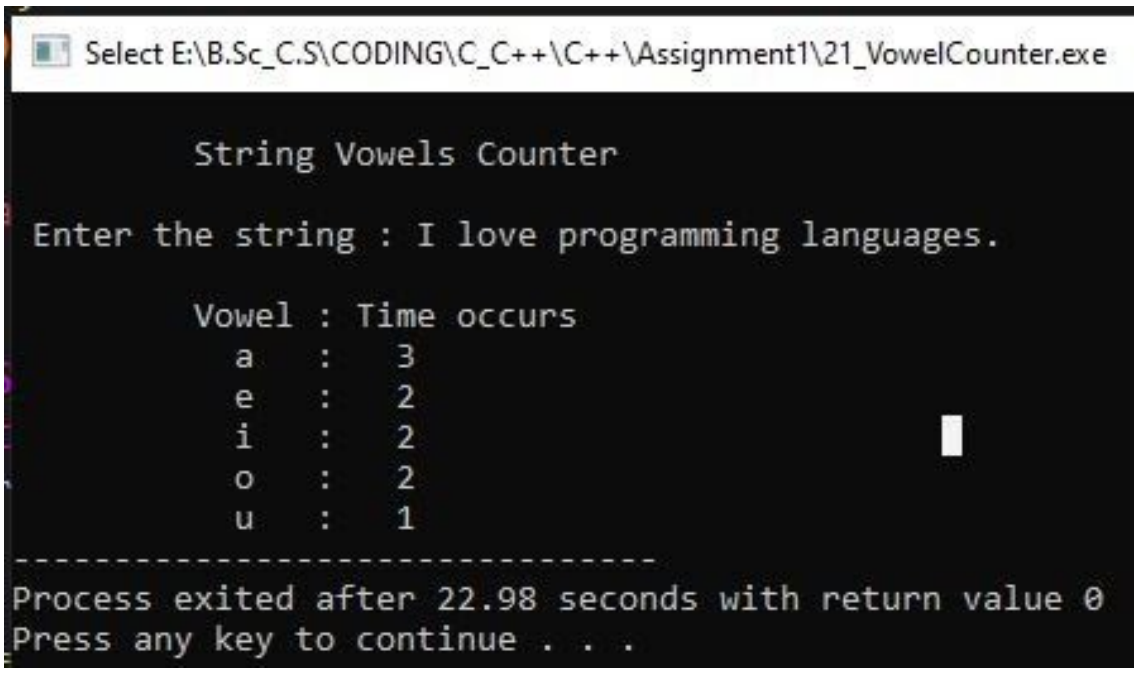
Q.21

Code -

```
#include <iostream>
using namespace std;
#define find(s,a,b) s == a || s == b
int main()
{
	char ch[] = {'a','A','e','E','i','I','o','O','u','U'};
	short int c[5] = {0};
	string str;

	cout << "\n\t String Vowels Counter \n";
	cout << "\n Enter the string : ";
	getline(cin,str);
```

```
    for(int i = 0; str[i] != '\0'; i++)
    {
        for(int j = 0, k = 0; j < 10; j += 2, k++)
            if(find(str[i],ch[j],ch[j+1]))
                c[k]++;
    }
    cout << "\n\t Vowel : Time occurs ";
    for(int i = 0 , j = 0; i < 5; i++ , j += 2)
    {
        if(c[i])
            cout << "\n\t   " << ch[j] << "   :   " << c[i];
    }
}
```

Output -



Q.22

Code -

```
#include <iostream>
using namespace std;

void sum(int m, int n, float m1[][10], float m2[][10])
{
	float m3[m][5], r, c;

	cout << "\n After adding these two matrices, \n\n Your new matrix
				is : \t";
	for (r = 0; r < m; r++)
	{
		for (c = 0; c < n; c++)
		{
			m3[r][c] = m1[r][c] + m2[r][c];
			cout << m3[r][c] << "\t";
		}
		cout << endl << "\t\t\t";
	}
}

void diff(int m, int n, float m1[][10], float m2[][10])
{
	float m3[m][5], r, c;

	cout << "\n After subtracting these two matrices, \n\n Your new
				matrix is : \t";
	for (r = 0; r < m; r++)
```

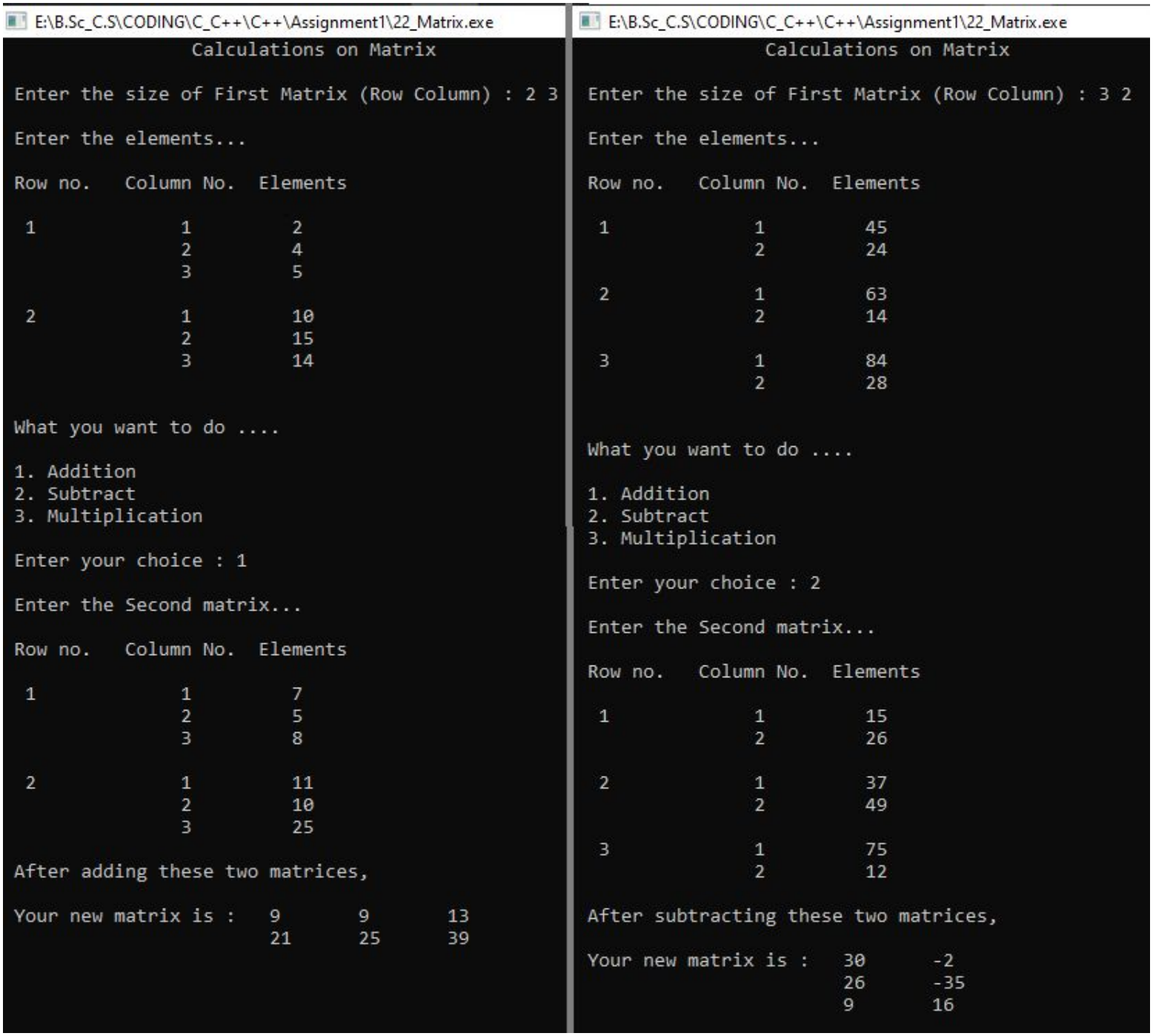
```
	{
		for (c = 0; c < n; c++)
		{
			m3[r][c] = m1[r][c] - m2[r][c];
			cout << m3[r][c] << "\t";
		}
		cout << endl << "\t\t\t";
	}
}

void cross(int m, int n,float mat1[][10])
{
	short int m1, n1;
	float mat2[10][10], mat3[10][10];
	bool non_valid;

	do
	{
		non_valid = false;
		cout << "\n Enter the size of Second Matrix (Row Column) : ";
		cin >> m1 >> n1;
		if (m <= 0 || n <= 0)
		{
			cerr << "\n Please enter the right size of matrix. \n";
			non_valid = true;
		}
		if (n != m1)
		{
			cerr << "\n Multiplication of these two matrices is
					undefined. \n";
```

```
                non_valid = true;
        }
    } while (non_valid);

    cout << "\n Enter the elements... " << endl;
    cout << "\n Row no.   Column No.  Elements" << endl;
    for (int i = 0; i < m1; i++)
    {
        cout << " \n  " << i + 1;
        for (int j = 0; j < n1; j++)
        {
            cout << "\t\t" << j + 1 << "\t  ";
            cin >> mat2[i][j];
        }
    }
    cout << "\n After multiplication these two matrices, \n\n Your new
                            matrix is : \t";
    for (int i = 0; i < m; i++)
    {
        for (int j = 0; j < n1; j++)
        {
            mat3[i][j] = 0;
            for (int k = 0; k < n; k++)
                mat3[i][j] += mat1[i][k] * mat2[k][j];
            cout << mat3[i][j] << "\t";
        }
        cout << endl<< "\t\t\t";
    }
}
```

```
int main()
{
	short int m, n;
	float mat1[10][10], mat2[10][10];
	char ch;

	cout << "\t\t Calculations on Matrix \n";
	do
	{
		cout << "\n Enter the size of First Matrix (Row Column) : ";
		cin >> m >> n;
		if (m <= 0 || n <= 0)
			cerr << "\n Please enter the right size of matrix. \n";
	} while (m <= 0 || n <= 0);

	cout << "\n Enter the elements... " << endl;
	cout << "\n Row no.   Column No.  Elements" << endl;
	for (int i = 0; i < m; i++)
	{
		cout << " \n  " << i + 1;
		for (int j = 0; j < n; j++)
		{
			cout << "\t\t" << j + 1 << "\t  ";
			cin >> mat1[i][j];
		}
	}
	cout << "\n\n What you want to do ....\n\n 1. Addition \n 2. Subtract
				\n 3. Multiplication \n";
	cout << "\n Enter your choice : ";
	cin >> ch;
```

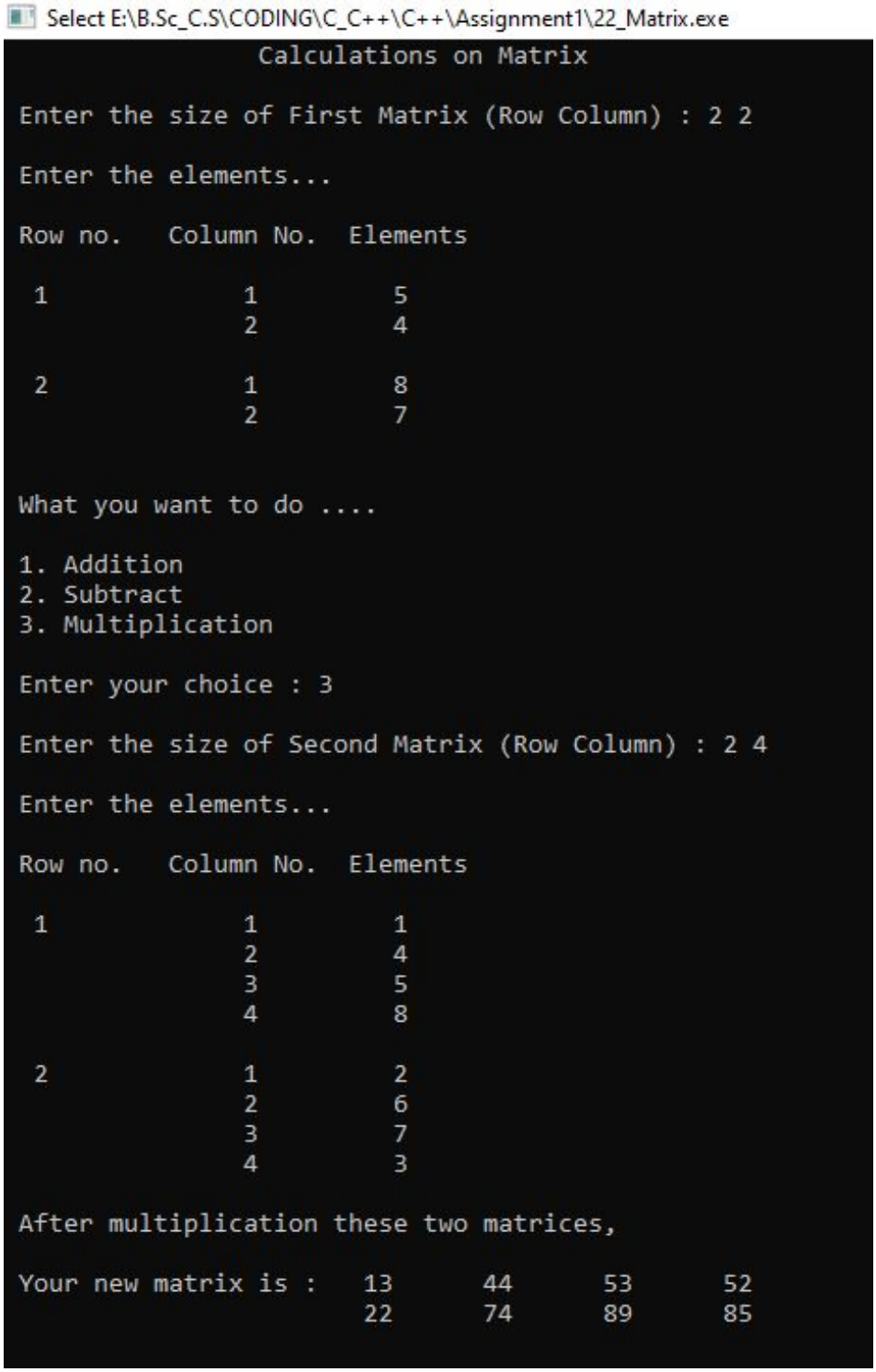
```
    if (ch == '1' || ch == '2')
    {
        cout << "\n Enter the Second matrix..." << endl;
        cout << "\n Row no.   Column No.  Elements" << endl;
        for (int i = 0; i < m; i++)
        {
            cout << " \n  " << i + 1;
            for (int j = 0; j < n; j++)
            {
                cout << "\t\t" << j + 1 << "\t  ";
                cin >> mat2[i][j];
            }
        }
    }
    switch (ch)
    {
    case '1':
        sum(m, n, mat1, mat2);
        break;
    case '2':
        diff(m, n, mat1, mat2);
        break;
    case '3':
        cross(m, n, mat1);
        break;
    default:
        cout << "\n\n Invalid input.\n";
    }
}
```

Output -



```
E:\B.Sc_C.S\CODING\C_C++\C++\Assignment1\22_Matrix.exe
                Calculations on Matrix

Enter the size of First Matrix (Row Column) : 2 3

Enter the elements...

Row no.   Column No.  Elements

 1             1         2
               2         4
               3         5

 2             1         10
               2         15
               3         14


What you want to do ....

1. Addition
2. Subtract
3. Multiplication

Enter your choice : 1

Enter the Second matrix...

Row no.   Column No.  Elements

 1             1         7
               2         5
               3         8

 2             1         11
               2         10
               3         25

After adding these two matrices,

Your new matrix is :   9       9       13
                       21      25      39
```

```
E:\B.Sc_C.S\CODING\C_C++\C++\Assignment1\22_Matrix.exe
                Calculations on Matrix

Enter the size of First Matrix (Row Column) : 3 2

Enter the elements...

Row no.   Column No.  Elements

 1             1         45
               2         24

 2             1         63
               2         14

 3             1         84
               2         28


What you want to do ....

1. Addition
2. Subtract
3. Multiplication

Enter your choice : 2

Enter the Second matrix...

Row no.   Column No.  Elements

 1             1         15
               2         26

 2             1         37
               2         49

 3             1         75
               2         12

After subtracting these two matrices,

Your new matrix is :   30      -2
                       26      -35
                       9       16
```


Select E:\B.Sc_C.S\CODING\C_C++\C++\Assignment1\22_Matrix.exe
Calculations on Matrix
Enter the size of First Matrix (Row Column) : 2 2
Enter the elements...
Row no. Column No. Elements
1 1 5
2 4
2 1 8
2 7
What you want to do ....
1. Addition
2. Subtract
3. Multiplication
Enter your choice : 3
Enter the size of Second Matrix (Row Column) : 2 4
Enter the elements...
Row no. Column No. Elements
1 1 1
2 4
3 5
4 8
2 1 2
2 6
3 7
4 3
After multiplication these two matrices,
Your new matrix is : 13 44 53 52
22 74 89 85

Q.23

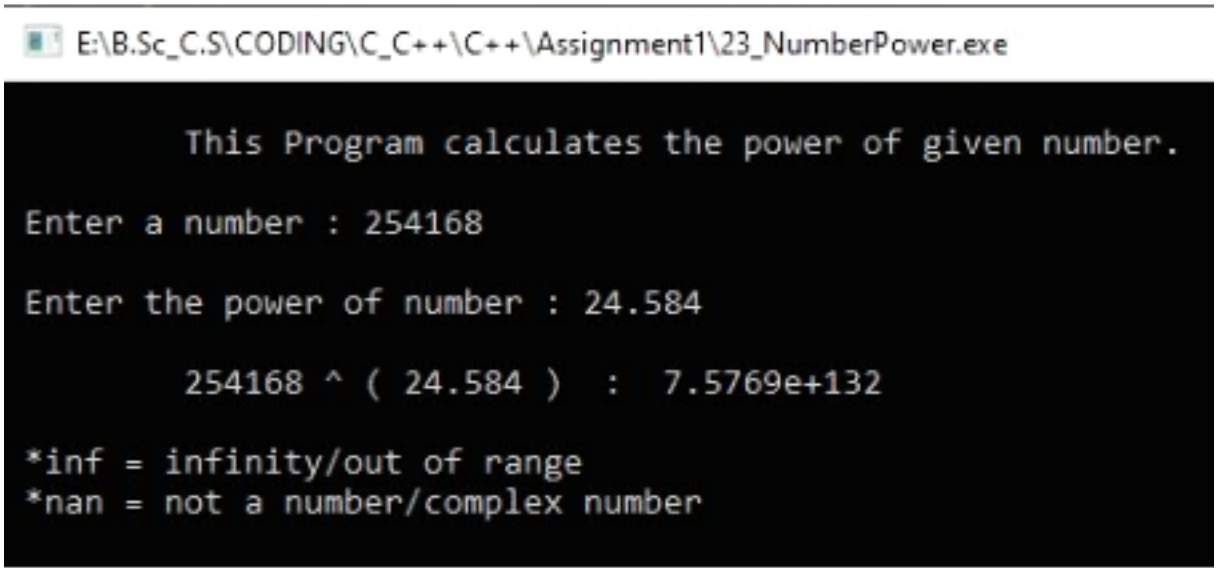
Code -

```
#include <iostream>
using namespace std;
#define Log10 2.30258509

double ln_x(double n)   // for calculating natural log
{
	short int count = 0;
	double x, loge = 0, error = 10e-10;

	for(;n > 10; n /= 10)		//for counting digits
		count++;
	x = (n-1)/(n+1);
	loge = count * Log10;
	if(n == 10)
		return Log10;
	else
		for(double i = x , k = 1; i > error; i *= x * x,k += 2)
			loge += 2 * i / k;
	return loge;
}

double e_pwr(double x)		// for calculating power of e
{
	double e_x = 1 , i = 1, j = 1, k = x ;

	for(;j <= (x > 20 ? 75 : 40); k *= x, j++, i *= j)
		e_x += k / i;
```

```
        return e_x;
}

int main()
{
        int i_pwr;
        double p_pwr, ln, e = 1;
        long double num, pwr, n_pwr = 1;
        bool inf = false , Nan = false;

        cout << "\n\t This Program calculates the power of a given
                        number. \n";
        cout << "\n Enter a number : ";
        cin >> num;
        cout << "\n Enter the power of number : ";
        cin >> pwr;

        i_pwr = pwr;     // i_pwr is an integral value of power.
        p_pwr = pwr - i_pwr;        // p_pwr is the decimal value of power.

        if(num == 0)
        {
                if(pwr < 0)
                        inf = true;
                else if(pwr > 0)
                        n_pwr = 0;
        }

        else if(num == 1)
                n_pwr = 1;
```

```
    else if(num < 0 && pwr != i_pwr)
        Nan = true;

    else
    {
        for(int i = 0; i != i_pwr;)
            {
                if(pwr > 0)
                    n_pwr *=  num;
                else
                    n_pwr *= 1.0 / num;
                pwr < 0 ? i-- : i++;
            }

        if(p_pwr != 0)
        {
            ln = ln_x(num);
            e = e_pwr(p_pwr * ln);
        }
        n_pwr *= e;
    }
    if(inf)
        cout << "\n\t " << num<< " ^ ( " << pwr << " )  :  inf";
    else if(Nan)
        cout << "\n\t " << num<< " ^ ( " << pwr << " )  :  nan";
    else
        cout << "\n\t " << num<< " ^ ( " << pwr << " )  :  "<< n_pwr;
    cout << "\n\n *inf = infinity/out of range \n *nan = not a
            number/complex number" << endl;
}
```

Output -



Q.24

Code -

```
#include <iostream>
using namespace std;

int main()
{
        short int dd[3] , mm[3] , yy[3];
        bool  non_valid = false;

        cout << "\n\t\t Age Calculator \n";

        do
        {
          cout << "\n Enter your Date of Birth (eg - dd mm yyyy) :  ";
          cin >> dd[0] >> mm[0] >> yy[0];
          cout << "\n Enter the date till you want to calculate  :  ";
          cin >> dd[1] >> mm[1] >> yy[1];
```

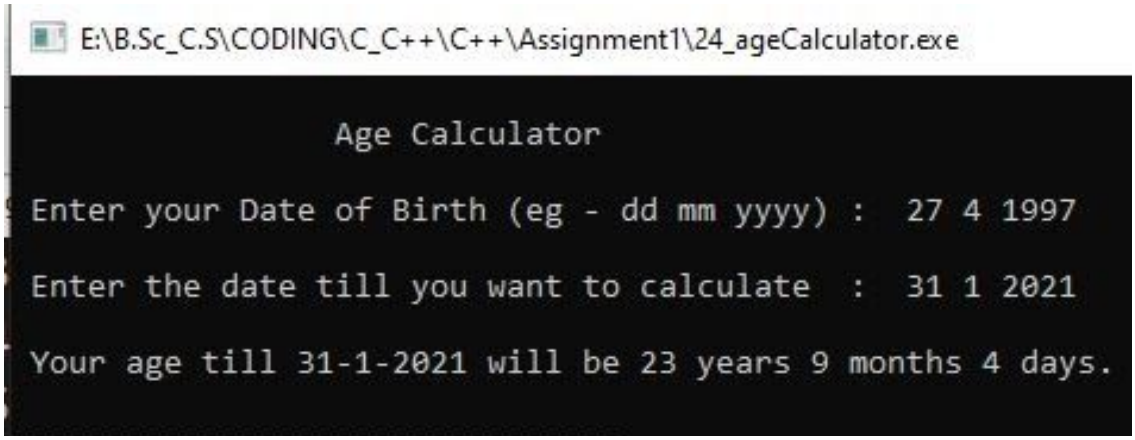
```
    for(int i = 0 ; i < 2;i++)
    {
                if(dd[i] < 1 || dd[i] > 32)
                        non_valid = true;
                else if(mm[i] < 1 || mm[i] > 13)
                        non_valid = true;
                else if (yy[i] < 0)
                        non_valid = true;
                else
                        non_valid = false;

                if(mm[i] == 2)
                {
                        if(yy[i] % 4 == 0)
                                non_valid = (dd[i] > 29);
                        else
                                non_valid = (dd[i] > 28);
                  }

                if(non_valid)
                        Break;
     }
    if(non_valid || yy[1] < yy[0])
         cerr << "\n Please enter the correct dates. \n";

}while(non_valid || yy[1] < yy[0]);
```

// calculating age

```
 dd[2] = dd[1] - dd[0];
 mm[2] = mm[1] - mm[0];
 yy[2] = yy[1] - yy[0];
```

```
        if(dd[2] < 0)
        {
                dd[2] = 31 + dd[2];
                if(mm[2] < 0)
                        mm[2] = 11 + mm[2];
                else if(mm[2] >= 0)
                        mm[2] = 11 - mm[2];
                yy[2]--;
         }

        else if(mm[2] < 0)
        {
               mm[2] += 12;
               yy[2]--;
         }

    cout << "\n Your age till " << dd[1] << "-" << mm[1] << "-" << yy[1]
      << " will be " << yy[2] << " years " << mm[2] << " months "
      << dd[2] << " days. " << endl;
}
```

Output -



Q.25

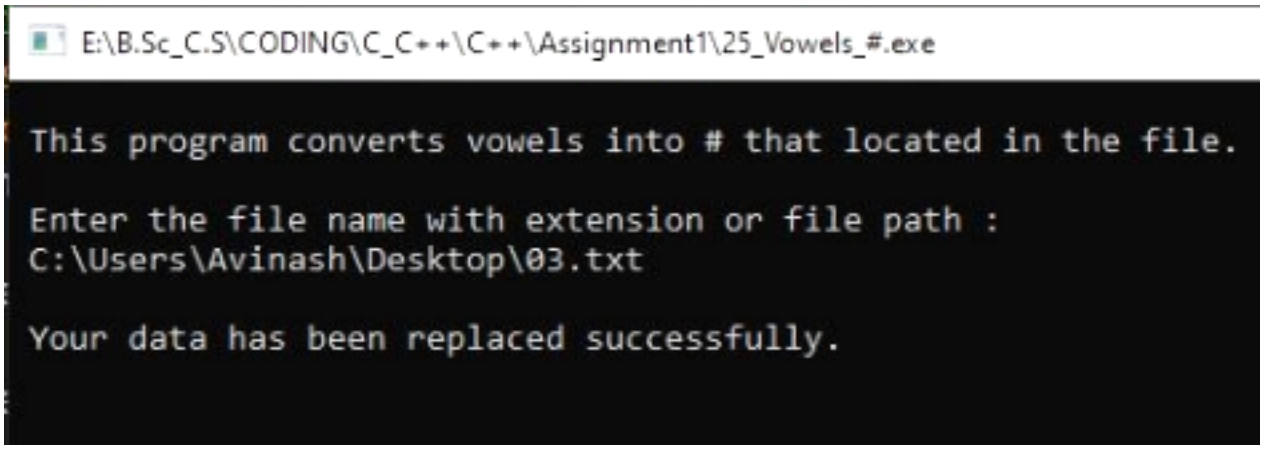
Code -

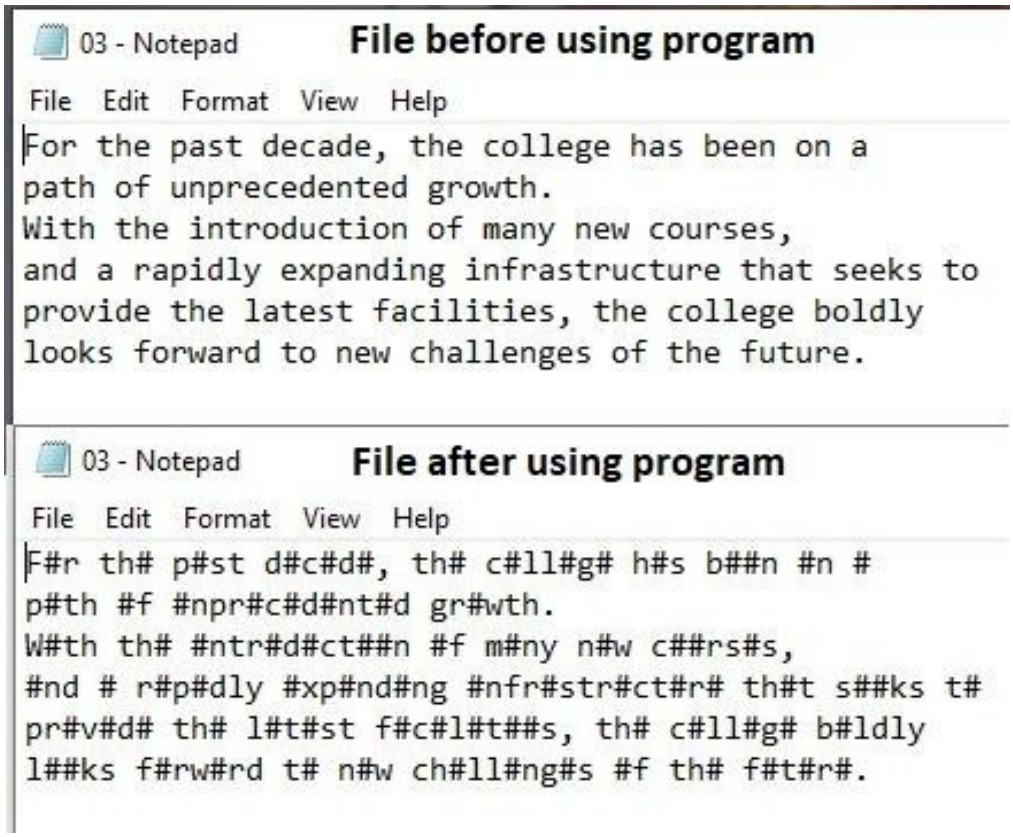
```
#include <iostream>
#include <fstream>
using namespace std;

#define s_vowels(v) v == 'a' || v == 'e' || v == 'i' || v == 'o' || v == 'u'
#define c_vowels(v) v == 'A' || v == 'E' || v == 'I' || v == 'O' || v == 'U'

void file_(string f)
{
	fstream file;
	char ch;
	bool v = false;
	// opening file
	file.open(f.c_str(), ios::out | ios::in | ios::binary);
	// checking errors.
	if(file.fail())
	{
		cerr << "\n Error in opening file.";
		cout << "\n Please enter a right name or right path. \n";
		return;
	}
	// loop runs until we get the end of the file.
	while(!file.eof())
```

```
	{
		file.get(ch);
		if(s_vowels(ch) || c_vowels(ch))
		{
			ch = '#';
			v = true;
		}
		else
			v = false;
		if(v)
		{
			file.seekp(-1, ios::cur);
			file.put(ch);
		}
	}
	cout << "\n Your data has been replaced successfully." << endl;
	// closing the file
	file.close();
}

int main()
{
	string filename;
	cout << "\n This program converts vowels into # that located in the
			file.";
```

```
    cout << "\n\n Enter the file name with extension or file path : \n ";
    getline(cin, filename);
    file_(filename);
}
```

Output -





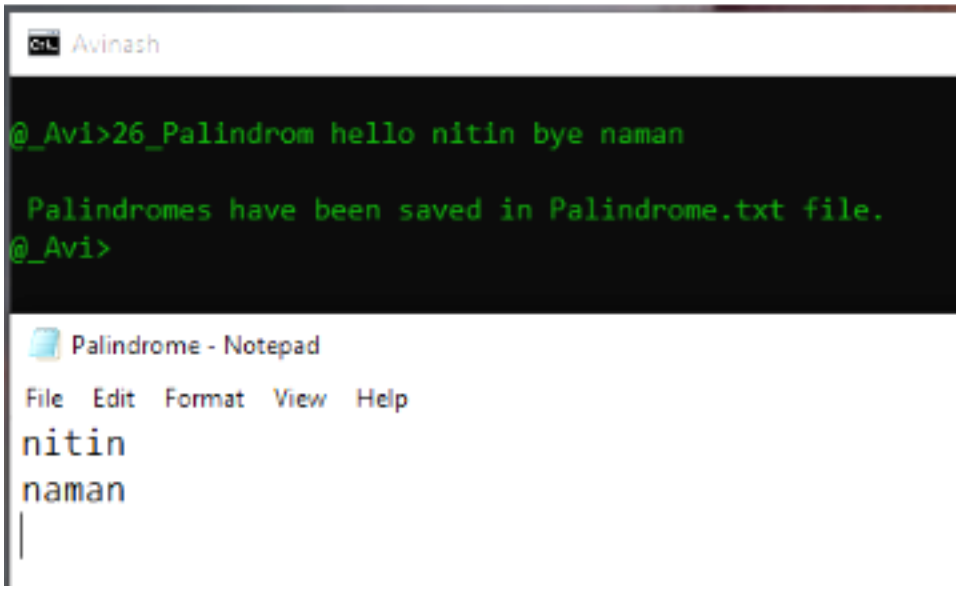
Q.26

Code -

```
#include <iostream>
#include <fstream>
using namespace std;

ofstream p; // global variable
void file_(string str)
{
	p << str << endl;
	if(p.bad())
	{
		cerr << "\n Error in writing file." << endl;
		return;
	}
}
void find_(string f)
{
	int i = 0 , j = f.size() - 1;
	bool palindrom = false;

	for(; i <= j; i++, j--)
	{
		palindrom = (f[i] == f[j]);
		if(!palindrom)
			break;
	}
	if(palindrom)
		file_(f);
```

```
}
int main(int c, char * arg[])
{
	if(c == 1)
		cout << "\n There is no arguments.\n";
	else
	{
		p.open("Palindrome.txt");
		if(p.fail()){
			cerr << "\n Error in creating file." << endl;
			return 0;
		}
		for(int i = 1; i < c; i++)
			find_(arg[i]);
	}
	cout << "\n Palindromes have been saved in Palindrome.txt file.";
	p.close();
}
```

Output -



Q.27

Code -

```
#include <iostream>
#include <fstream>
using namespace std;

void copy_file(ifstream &f, ofstream &o, bool &c)
{
	string store;

	while(!f.eof())
	{
		getline(f, store);
		o << store << endl;
		if(o.bad() || f.bad())
		{
			c = false;
			cerr << "\n Error in reading / writing files.\n";
			break;
		 }
	}
}

void file_join(ifstream &file1, ifstream &file2)
{
	string s3;
	bool done = true;;
	ofstream Data;
```

```
    cout << "\n Enter the file name (with extension) in which you want
                to save your data : \n ";
    getline(cin, s3);

    // opening final file & checking errors
    Data.open(s3.c_str());
    if(!Data)
    {
        cerr << "\n Error in creating file. \n";
        Data.close();
        return;
    }
    else
    {
        copy_file(file1, Data, done);
        if(done)
            copy_file(file2, Data, done);
    }

    if(done)
        cout << "\n File data transfer has been done.\n";
}

int main()
{
    ifstream f1,f2;
    string s1,s2;

   cout << "\n This program concatenate two files' data into a file.\n";
```

```
    cout << "\n Enter your first file name with extension or path : \n ";
    getline(cin, s1);
    cout << "\n Enter your second file name with extension or path :\n ";
    getline(cin, s2);

    // opening files
    f1.open(s1.c_str()); //str.c_str() is a function which converts string to a char *.
    f2.open(s2.c_str());

    // checking errors
    if(!f1 || !f2)
     {
            cerr << "\n Error in opening files.\n Please give right path
                        or name.\n";
            return 0;
     }
     else
     {
            cout << "\n Files have been found successfully.\n";
            file_join(f1 , f2);
     }

     //closing the files
     f1.close();
     f2.close();

}
```

Output -

```
E:\B.Sc_C.S\CODING\C_C++\C++\Assignment1\27_JoinFile.exe

This program concatenate two files' data into a file.

Enter your first file name with extention or path :
C:\Users\Avinash\Desktop\01.txt

Enter your second file name with extention or path :
C:\Users\Avinash\Desktop\02.txt

Files have been found successfully.

Enter the file name (with extention) in which you want to save your data :
C:\Users\Avinash\Desktop\Col.txt

Flie data transfer has been done.

--------------------------------
```

01 - Notepad

File Edit Format View Help

Inspired by Srinivasa Aiyangar Ramanujan, one of the world's greatest-ever mathematical genius, the College adheres to the core values of dedication, hard work and commitment as encapsulated in the motto of the University of Delhi – Nistha, Dhriti and Satyam.

02 - Notepad

File Edit Format View Help

Ramanujan College, formerly known as Deshbandhu College (Evening), was established in 1958 by the Ministry of Rehabilitation, Government of India, in the memory of Late Lala Deshbandhu Gupta, a patriot who had dedicated his life to the national freedom struggle. The College is 100% funded by the University Grants Commission (UGC) and has been maintained by the University of Delhi since 1972. The College opened its gate for women students in 1994. In 2010, the Deshbandhu College (Evening) was renamed as the Ramanujan College. The College became a full-fledged day college since 2012.

Col - Notepad

File Edit Format View Help

Inspired by Srinivasa Aiyangar Ramanujan, one of the world's greatest-ever mathematical genius, the College adheres to the core values of dedication, hard work and commitment as encapsulated in the motto of the University of Delhi – Nistha, Dhriti and Satyam.
Ramanujan College, formerly known as Deshbandhu College (Evening), was established in 1958 by the Ministry of Rehabilitation, Government of India, in the memory of Late Lala Deshbandhu Gupta, a patriot who had dedicated his life to the national freedom struggle. The College is 100% funded by the University Grants Commission (UGC) and has been maintained by the University of Delhi since 1972. The College opened its gate for women students in 1994. In 2010, the Deshbandhu College (Evening) was renamed as the Ramanujan College. The College became a full-fledged day college since 2012.

Q.28

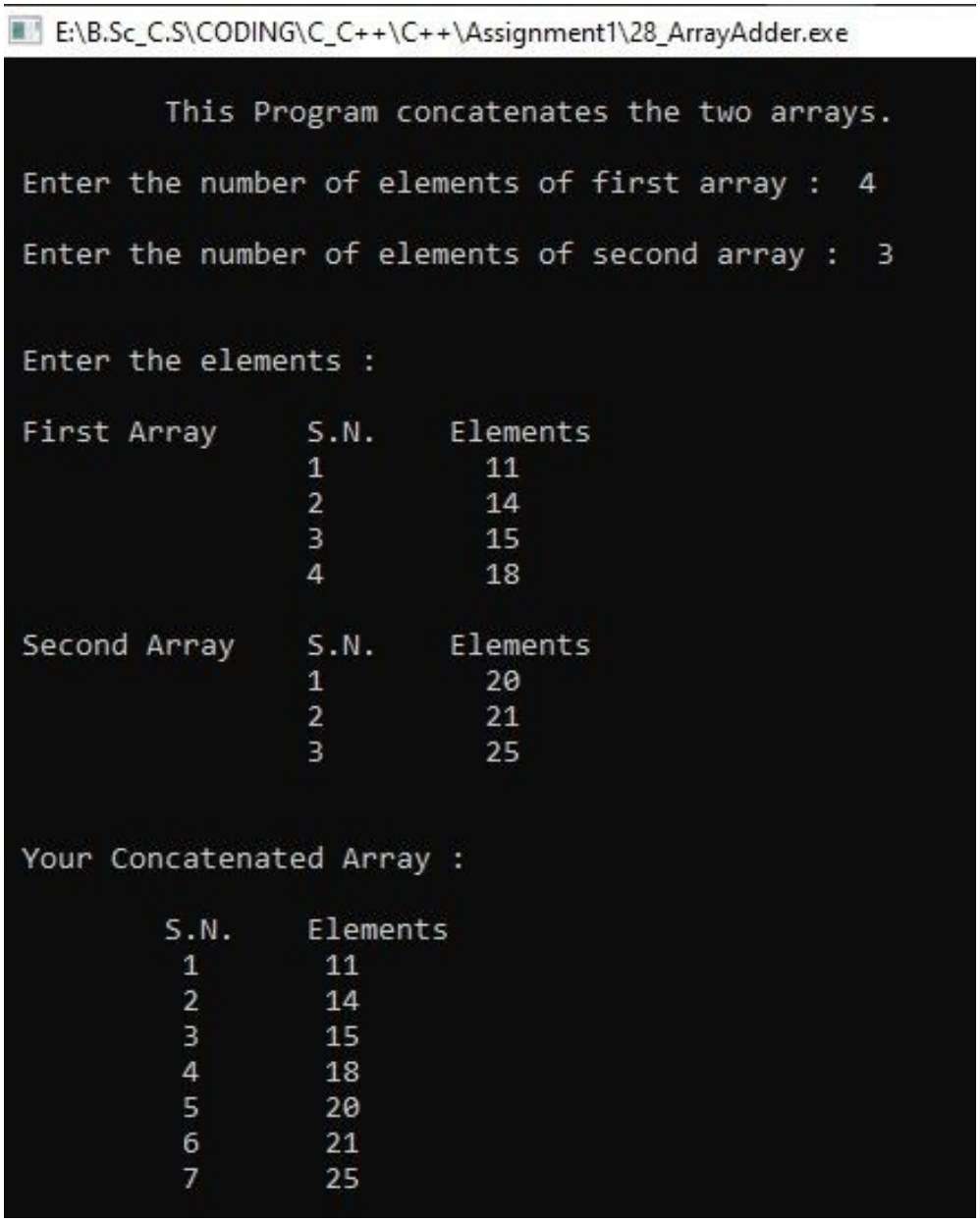
Code -

```
#include <iostream>
using namespace std;

void addArr(int len1 ,int len2 , int *num , int *num1)
{
	short int len3 = len1 + len2 ;
	int num3[len3];

	cout << "\n\n Your Concatenated Array : \n ";
	cout << "\n\t S.N. \t Elements \n";

	for(int i = 0, j = 0 ; i < len3; i++)
	{
		if(len1 < len2)
		{
			if(i >= len2)
			{
				num3[i] = num[j];
					j++;
			}
			else
				num3[i] = num1[i];

			cout << "\t  " << i+1 << "\t  " << num3[i] << endl;
		  }

		else
		{
```

```
                if(i >= len1)
                {
                        num3[i] = num1[j];
                        j++;
                 }
                else
                        num3[i] = num[i];

                cout << "\t  " << i+1 << "\t  " << num3[i] << endl;
            }
        }
}

int main()
{
      short int size1 , size2 ;
      int num[10] , num1[10];

      cout << "\n\t This Program concatenates the two arrays.";

      do
      {
          cout << "\n\n Enter the number of elements of first array :  ";
          cin >> size1;
          cout << "\n Enter the number of elements of second array :  ";
          cin >> size2;

          if(size1 <= 0 || size2 <= 0)
                cout << "\n Please enter a positive number except 0
                              or negative. \n";
```

```
  }while(size1 <= 0 || size2 <= 0);

    cout << "\n\n Enter the elements : \n ";

    cout << "\n First Array \t S.N. \t Elements \n";
    for(int i = 0; i < size1; i++)
    {
        cout << "\t\t " << i+1 << "\t   " ;
        cin >> num[i];
    }

    cout << "\n Second Array \t S.N. \t Elements \n";
    for(int i = 0; i < size2; i++)
    {
        cout << "\t\t " << i+1 << "\t   " ;
        cin >> num1[i];
    }

    addArr(size1 ,size2 , num,num1);
}
```

Output -



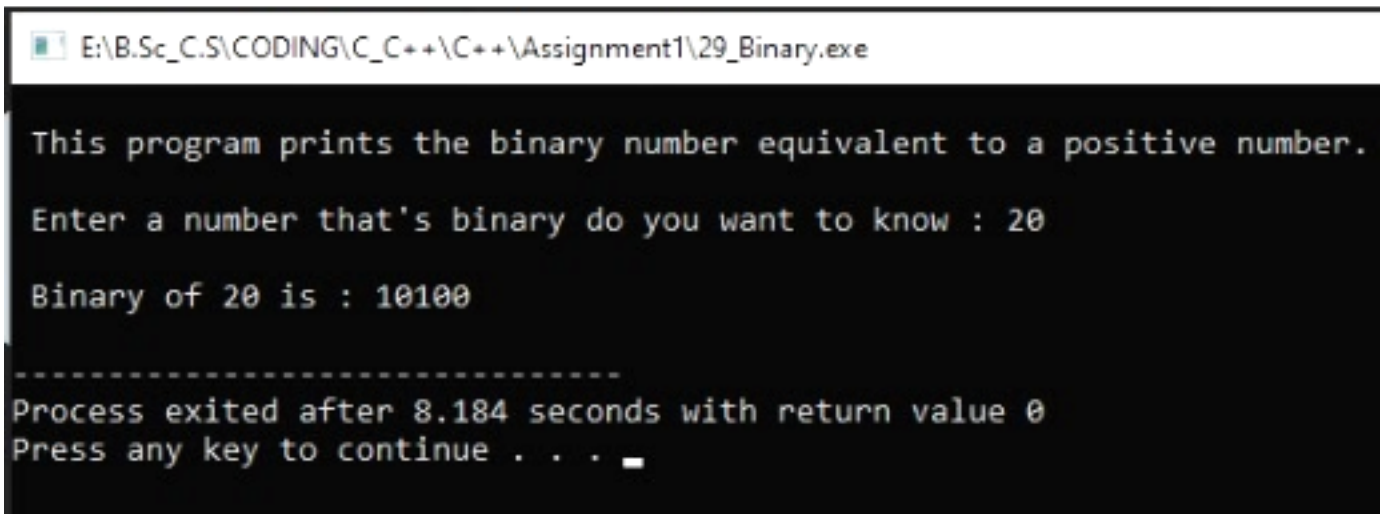
Q.29

Code -

```
#include <iostream>
using namespace std;
```

```
int main()
{
	int num;
	long long int convrt = 0 , j = 1;

	cout << "\n This program prints the binary number
		equivalent to a positive number.";

	do{
		cout << "\n\n Enter a number that's binary do you want
			to know : ";
		cin >> num;
		if(num < 0)
			cout << "\n Please enter a positive number. \n";
	  }while(num < 0);

	for(int i = num; i != 0 ; i /= 2 , j *= 10)
		convrt += (i % 2) * j;
	cout << "\n Binary of " << num << " is : " << convrt << endl;
}
```

Output -



Q.30

Code -

```
#include <iostream>
using namespace std;

void subtotal(int *len , float *num)
{
	float sum = 0;

	cout << "\n\n Your Array after subtotaling  : " << endl;
	cout << "\n\t S.N. \t Elements \n";

	for(int i = 0; i < *len ; i++)
	{
		sum += num[i];
		num[i] = sum;
		cout << "\t " << i+1 << "\t  " << num[i] <<endl;
	}

}

int main()
{
	int size;
	float num[25];

	cout << "\n\t This program will change the number to the sum of
		their left ended numbers.";
```

```
    do
    {
        cout << "\n\n How many numbers do you want to enter : ";
        cin >> size;

        if(size <= 0)
            cerr << "\n Enter a positive number not 0 or any
                                negative. \n";

    }while (size <= 0);

    cout << "\n Enter the numbers : ";

    cout << "\t S.N. \t Elements \n";
    for(int i = 0 ; i < size; i++)
    {
        cout << " \t\t\t   " << i+1 << "\t   ";
        cin >> num[i];
    }

    subtotal(&size , num);
}
```

Output -

E:\B.Sc_C.S\CODING\C_C++\C++\Assignment1\30_ArraySubtotal.exe