CSE 2003

DATA STRUCTURES AND ALGORITHMS

Lab Assessment – 1

L19+L20 | SJT317

FALL SEMESTER 2020-21

by

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Question 1

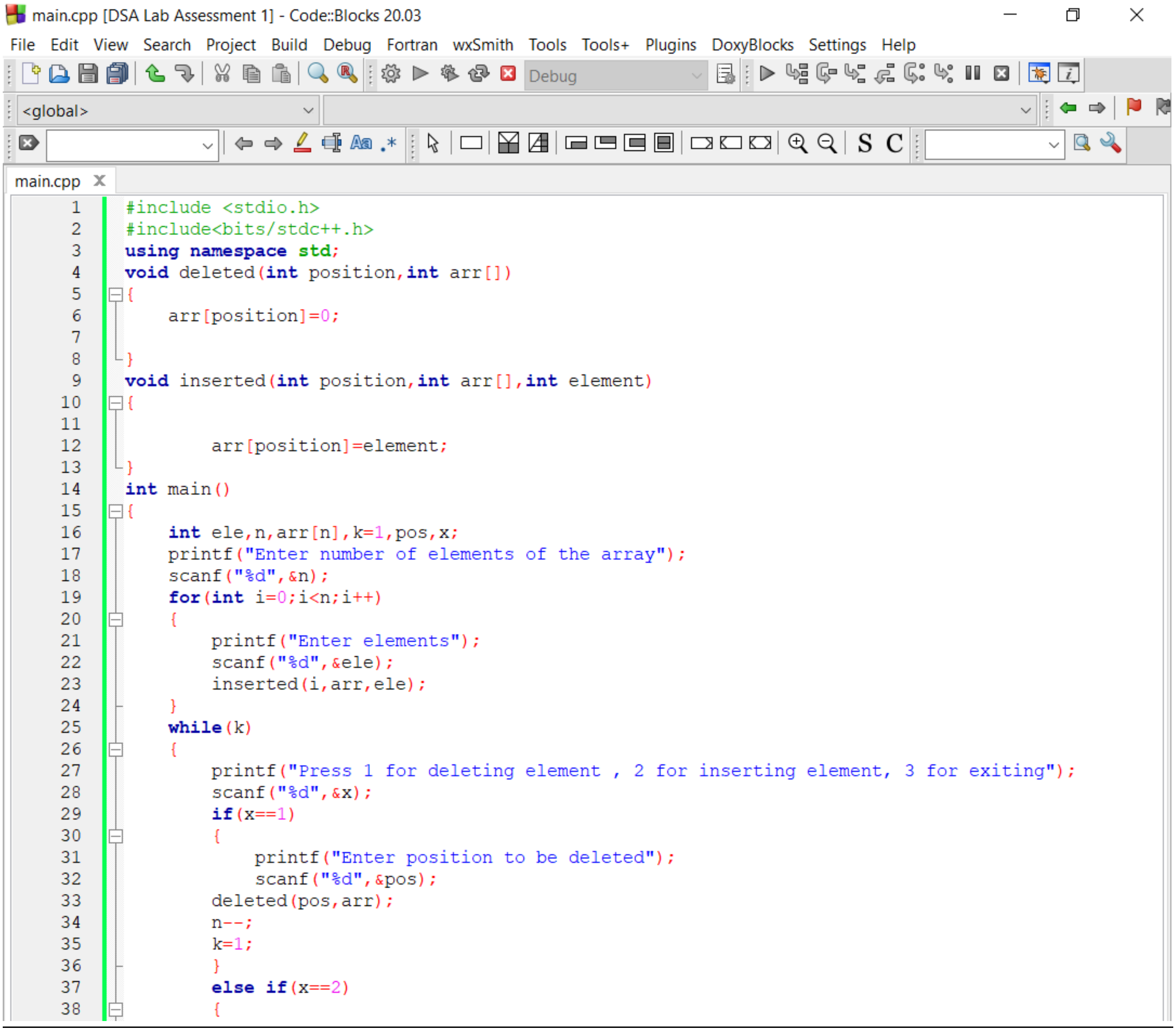
Problem:

Write a program to create a one-dimensional array at run time using a user defined function with user given number of elements into it. Also write separate functions that would allow you to insert and delete elements into/from this array at any arbitrary location.

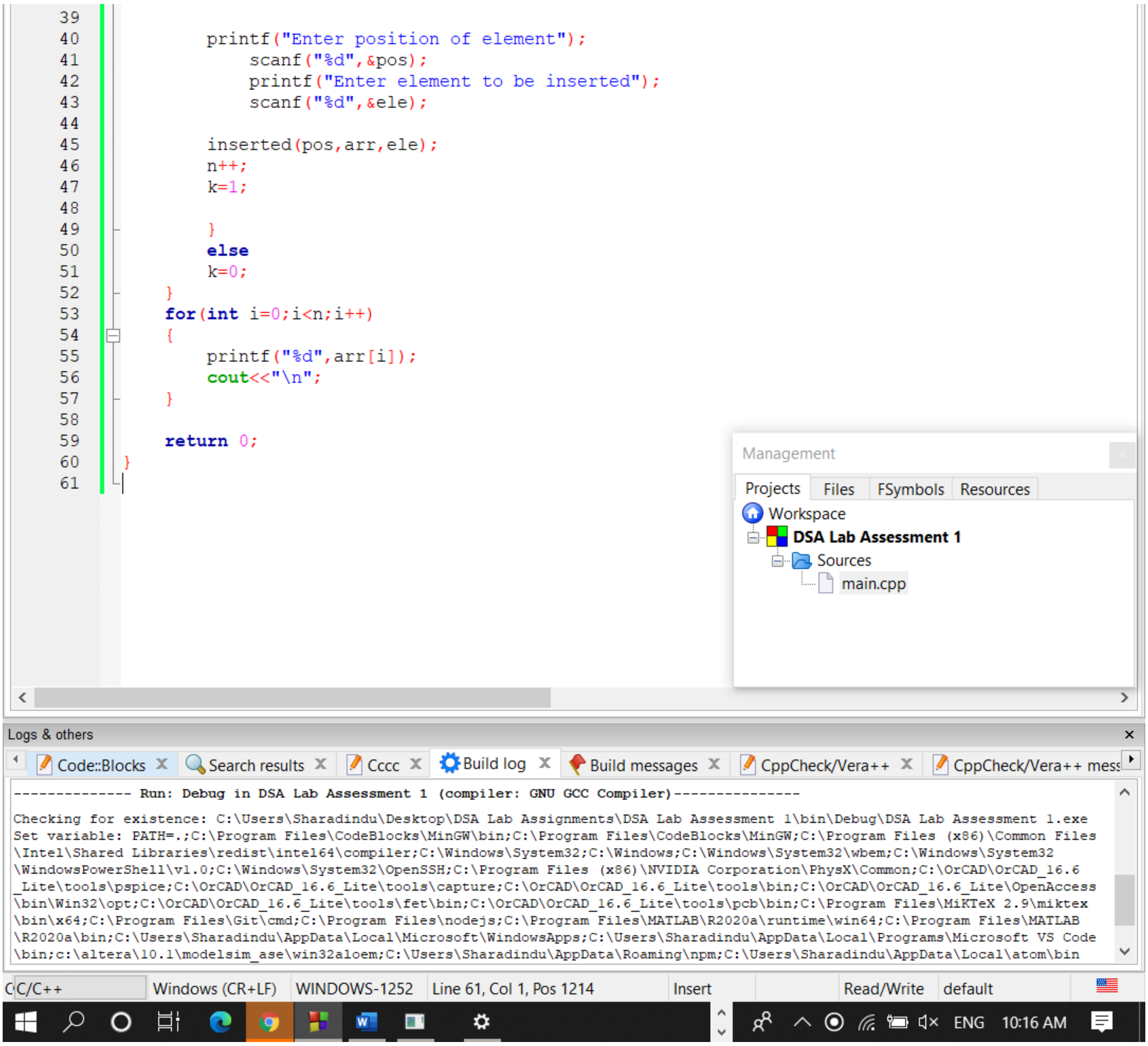
Code & Input:

```
#include <stdio.h>
#include<bits/stdc++.h>
using namespace std;
void deleted(int position,int arr[])
{
    arr[position]=0;

}
void inserted(int position,int arr[],int element)
{

        arr[position]=element;
}
int main()
{
    int ele,n,arr[n],k=1,pos,x;
    printf("Enter number of elements of the array");
    scanf("%d",&n);
    for(int i=0;i<n;i++)
    {
        printf("Enter elements");
        scanf("%d",&ele);
        inserted(i,arr,ele);
    }
    while(k)
    {
        printf("Press 1 for deleting element , 2 for inserting element,
3 for exiting");
        scanf("%d",&x);
        if(x==1)
        {
            printf("Enter position to be deleted");
            scanf("%d",&pos);
        deleted(pos,arr);
        n--;
        k=1;
        }
        else if(x==2)
        {
        printf("Enter position of element");
            scanf("%d",&pos);
            printf("Enter element to be inserted");
            scanf("%d",&ele);

        inserted(pos,arr,ele);
        n++;
        k=1;

        }
        else
        k=0;
    }
    for(int i=0;i<n;i++)
    {
        printf("%d",arr[i]);
        cout<<"\n";
    }

    return 0;
}
```

Screenshot of Code & Output:

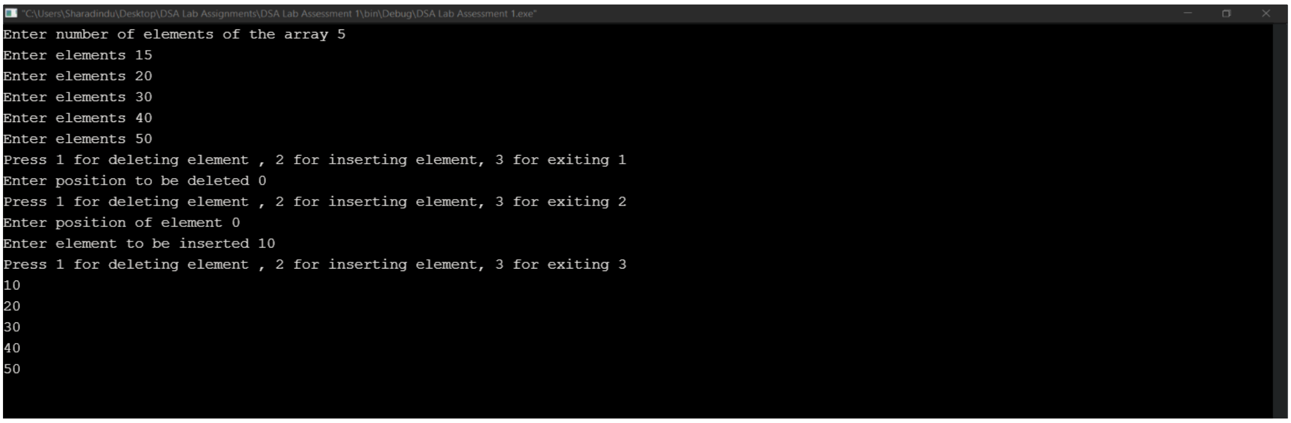

main.cpp [DSA Lab Assessment 1] - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
Debug
<global>
S C
main.cpp

```
#include <stdio.h>
#include<bits/stdc++.h>
using namespace std;
void deleted(int position,int arr[])
{
    arr[position]=0;

}
void inserted(int position,int arr[],int element)
{

        arr[position]=element;
}
int main()
{
    int ele,n,arr[n],k=1,pos,x;
    printf("Enter number of elements of the array");
    scanf("%d",&n);
    for(int i=0;i<n;i++)
    {
        printf("Enter elements");
        scanf("%d",&ele);
        inserted(i,arr,ele);
    }
    while(k)
    {
        printf("Press 1 for deleting element , 2 for inserting element, 3 for exiting");
        scanf("%d",&x);
        if(x==1)
        {
            printf("Enter position to be deleted");
            scanf("%d",&pos);
        deleted(pos,arr);
        n--;
        k=1;
        }
        else if(x==2)
        {
```



```
        printf("Enter position of element");
            scanf("%d",&pos);
            printf("Enter element to be inserted");
            scanf("%d",&ele);

        inserted(pos,arr,ele);
        n++;
        k=1;

        }
        else
        k=0;
    }
    for(int i=0;i<n;i++)
    {
        printf("%d",arr[i]);
        cout<<"\n";
    }

    return 0;
}
```

```
-------------- Run: Debug in DSA Lab Assessment 1 (compiler: GNU GCC Compiler)---------------

Checking for existence: C:\Users\Sharadindu\Desktop\DSA Lab Assignments\DSA Lab Assessment 1\bin\Debug\DSA Lab Assessment 1.exe
Set variable: PATH=.;C:\Program Files\CodeBlocks\MinGW\bin;C:\Program Files\CodeBlocks\MinGW;C:\Program Files (x86)\Common Files
\Intel\Shared Libraries\redist\intel64\compiler;C:\Windows\System32;C:\Windows;C:\Windows\System32\wbem;C:\Windows\System32
\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\Program Files (x86)\NVIDIA Corporation\PhysX\Common;C:\OrCAD\OrCAD_16.6
_Lite\tools\pspice;C:\OrCAD\OrCAD_16.6_Lite\tools\capture;C:\OrCAD\OrCAD_16.6_Lite\tools\bin;C:\OrCAD\OrCAD_16.6_Lite\OpenAccess
\bin\Win32\opt;C:\OrCAD\OrCAD_16.6_Lite\tools\fet\bin;C:\OrCAD\OrCAD_16.6_Lite\tools\pcb\bin;C:\Program Files\MiKTeX 2.9\miktex
\bin\x64;C:\Program Files\Git\cmd;C:\Program Files\nodejs;C:\Program Files\MATLAB\R2020a\runtime\win64;C:\Program Files\MATLAB
\R2020a\bin;C:\Users\Sharadindu\AppData\Local\Microsoft\WindowsApps;C:\Users\Sharadindu\AppData\Local\Programs\Microsoft VS Code
\bin;c:\altera\10.1\modelsim_ase\win32aloem;C:\Users\Sharadindu\AppData\Roaming\npm;C:\Users\Sharadindu\AppData\Local\atom\bin
```



"C:\Users\Sharadindu\Desktop\DSA Lab Assignments\DSA Lab Assessment 1\bin\Debug\DSA Lab Assessment 1.exe"

```
Enter number of elements of the array 5
Enter elements 15
Enter elements 20
Enter elements 30
Enter elements 40
Enter elements 50
Press 1 for deleting element , 2 for inserting element, 3 for exiting 1
Enter position to be deleted 0
Press 1 for deleting element , 2 for inserting element, 3 for exiting 2
Enter position of element 0
Enter element to be inserted 10
Press 1 for deleting element , 2 for inserting element, 3 for exiting 3
10
20
30
40
50
```

Question 2

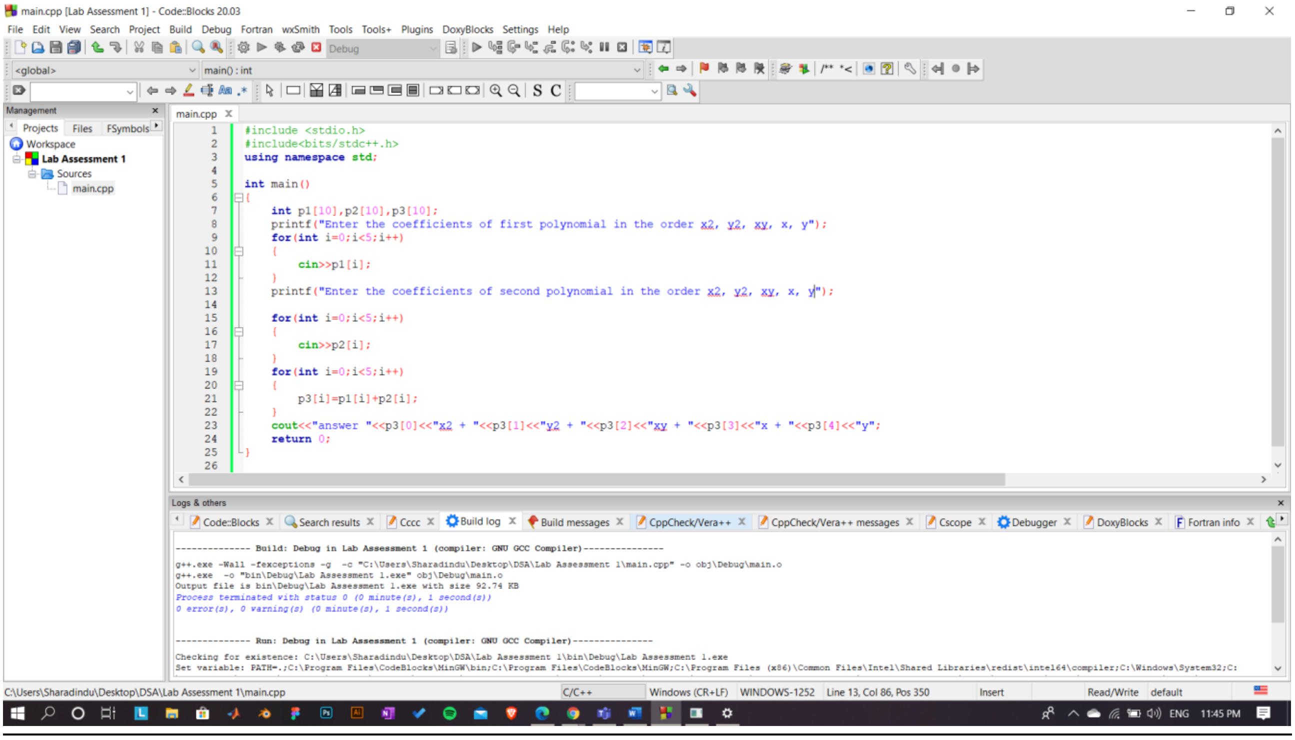
Problem:

WAP to add and subtract the following polynomials using array: $5x^2 - 3xy + y$, $2x^2 - y^2 + 5xy - x + y$

Code & Input:

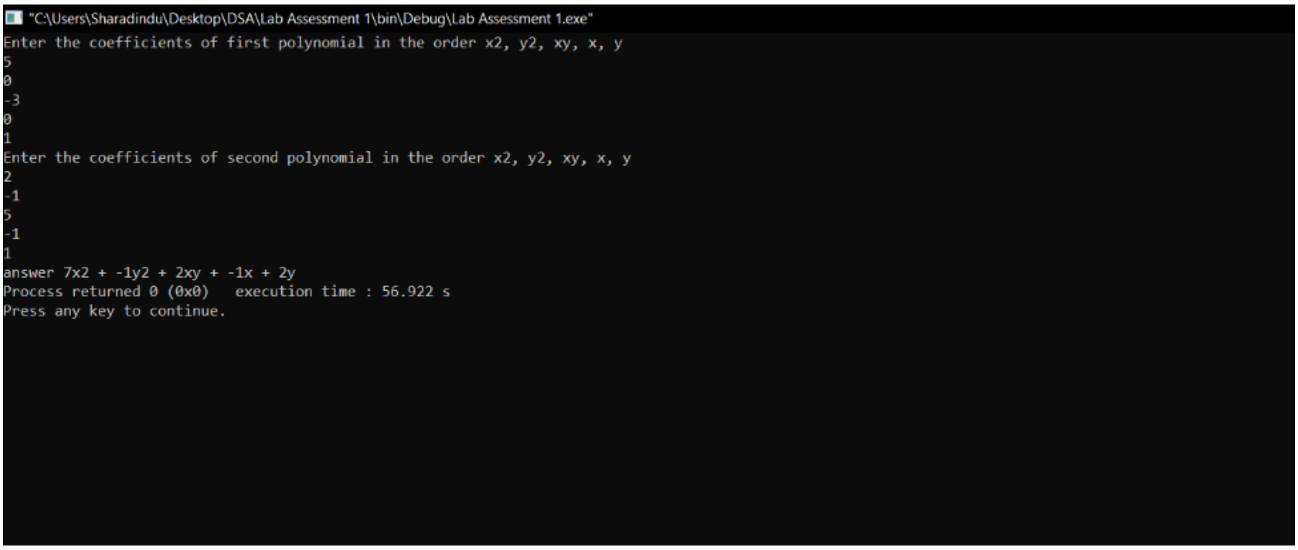
```
#include <stdio.h>
#include<bits/stdc++.h>
using namespace std;

int main()
{
    int p1[10],p2[10],p3[10];
    printf("Enter the coefficients of first polynomial in the order x2,
y2, xy, x, y");
    for(int i=0;i<5;i++)
    {
        cin>>p1[i];
    }
    printf("Enter the coefficients of second polynomial in the order
x2, y2, xy, x, y");

    for(int i=0;i<5;i++)
    {
        cin>>p2[i];
    }
    for(int i=0;i<5;i++)
    {
        p3[i]=p1[i]+p2[i];
    }
    cout<<"answer  "<<p3[0]<<"x2  +  "<<p3[1]<<"y2  +  "<<p3[2]<<"xy  +
"<<p3[3]<<"x + "<<p3[4]<<"y";
    return 0;
}
```

Screenshot of Code & Output:



```cpp
#include <stdio.h>
#include<bits/stdc++.h>
using namespace std;

int main()
{
    int p1[10],p2[10],p3[10];
    printf("Enter the coefficients of first polynomial in the order x2, y2, xy, x, y");
    for(int i=0;i<5;i++)
    {
        cin>>p1[i];
    }
    printf("Enter the coefficients of second polynomial in the order x2, y2, xy, x, y");

    for(int i=0;i<5;i++)
    {
        cin>>p2[i];
    }
    for(int i=0;i<5;i++)
    {
        p3[i]=p1[i]+p2[i];
    }
    cout<<"answer "<<p3[0]<<"x2 + "<<p3[1]<<"y2 + "<<p3[2]<<"xy + "<<p3[3]<<"x + "<<p3[4]<<"y";
    return 0;
}

```

```
-------------- Build: Debug in Lab Assessment 1 (compiler: GNU GCC Compiler)---------------
g++.exe -Wall -fexceptions -g  -c "C:\Users\Sharadindu\Desktop\DSA\Lab Assessment 1\main.cpp" -o obj\Debug\main.o
g++.exe  -o "bin\Debug\Lab Assessment 1.exe" obj\Debug\main.o
Output file is bin\Debug\Lab Assessment 1.exe with size 92.74 KB
Process terminated with status 0 (0 minute(s), 1 second(s))
0 error(s), 0 warning(s) (0 minute(s), 1 second(s))


-------------- Run: Debug in Lab Assessment 1 (compiler: GNU GCC Compiler)---------------
Checking for existence: C:\Users\Sharadindu\Desktop\DSA\Lab Assessment 1\bin\Debug\Lab Assessment 1.exe
Set variable: PATH=.;C:\Program Files\CodeBlocks\MinGW\bin;C:\Program Files\CodeBlocks\MinGW;C:\Program Files (x86)\Common Files\Intel\Shared Libraries\redist\intel64\compiler;C:\Windows\System32;C:
```



"C:\Users\Sharadindu\Desktop\DSA\Lab Assessment 1\bin\Debug\Lab Assessment 1.exe"

```
Enter the coefficients of first polynomial in the order x2, y2, xy, x, y
5
0
-3
0
1
Enter the coefficients of second polynomial in the order x2, y2, xy, x, y
2
-1
5
-1
1
answer 7x2 + -1y2 + 2xy + -1x + 2y
Process returned 0 (0x0)   execution time : 56.922 s
Press any key to continue.
```

Question 3

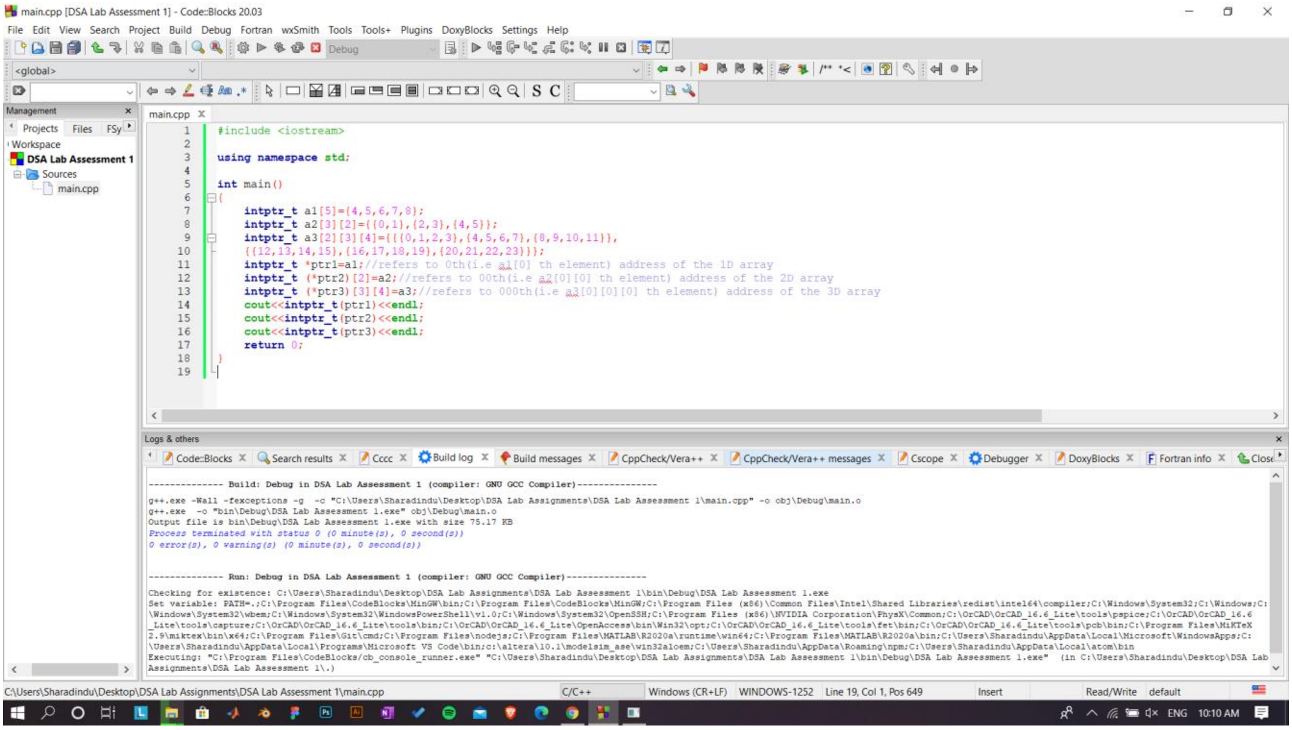
Problem:

Write a program to create one-dimensional, two-dimensional, and three-dimensional arrays in memory and then verify the various address calculation formulae for any arbitrary element of these arrays.

Code & Input:

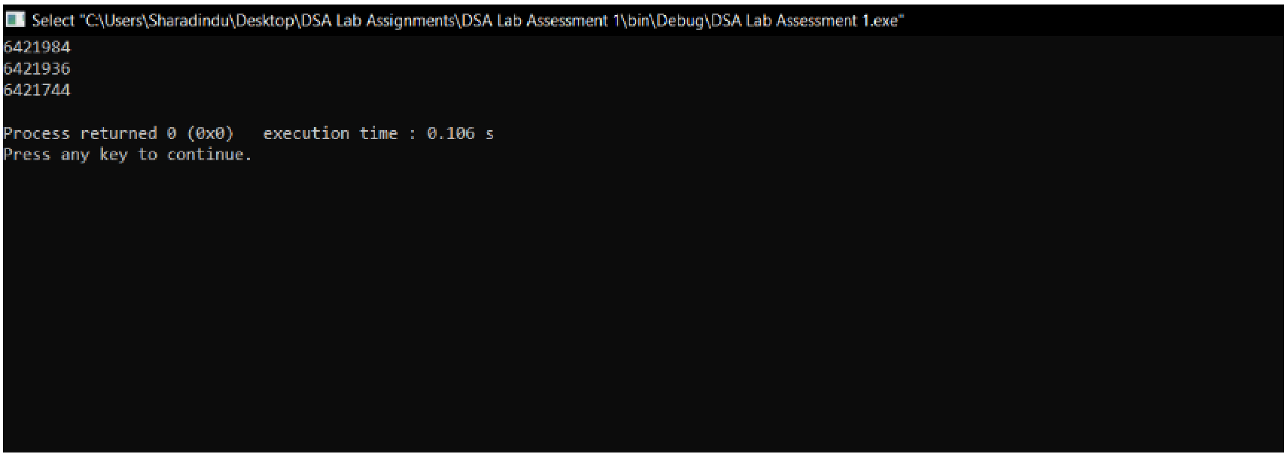
```
#include <iostream>

using namespace std;

int main()
{
    intptr_t a1[5]={4,5,6,7,8};
    intptr_t a2[3][2]={{0,1},{2,3},{4,5}};
    intptr_t a3[2][3][4]={{{0,1,2,3},{4,5,6,7},{8,9,10,11}},
    {{12,13,14,15},{16,17,18,19},{20,21,22,23}}};
    intptr_t *ptr1=a1;//refers to 0th(i.e a1[0] th element) address of the 1D array
    intptr_t  (*ptr2)[2]=a2;//refers to 00th(i.e a2[0][0] th element) address of the 2D array
    intptr_t  (*ptr3)[3][4]=a3;//refers to 000th(i.e a3[0][0][0] th element) address of the 3D array
    cout<<intptr_t(ptr1)<<endl;
    cout<<intptr_t(ptr2)<<endl;
    cout<<intptr_t(ptr3)<<endl;
    return 0;
}
```

Screenshot of Code & Output:



```
#include <iostream>

using namespace std;

int main()
{
    intptr_t a1[5]={4,5,6,7,8};
    intptr_t a2[3][2]={{0,1},{2,3},{4,5}};
    intptr_t a3[2][3][4]={{{0,1,2,3},{4,5,6,7},{8,9,10,11}},
    {{12,13,14,15},{16,17,18,19},{20,21,22,23}}};
    intptr_t *ptr1=a1;//refers to 0th(i.e a1[0] th element) address of the 1D array
    intptr_t (*ptr2)[2]=a2;//refers to 00th(i.e a2[0][0] th element) address of the 2D array
    intptr_t (*ptr3)[3][4]=a3;//refers to 000th(i.e a3[0][0][0] th element) address of the 3D array
    cout<<intptr_t(ptr1)<<endl;
    cout<<intptr_t(ptr2)<<endl;
    cout<<intptr_t(ptr3)<<endl;
    return 0;
}
```

```
-------------- Build: Debug in DSA Lab Assessment 1 (compiler: GNU GCC Compiler)---------------

g++.exe -Wall -fexceptions -g  -c "C:\Users\Sharadindu\Desktop\DSA Lab Assignments\DSA Lab Assessment 1\main.cpp" -o obj\Debug\main.o
g++.exe  -o "bin\Debug\DSA Lab Assessment 1.exe" obj\Debug\main.o
Output file is bin\Debug\DSA Lab Assessment 1.exe with size 75.17 KB
Process terminated with status 0 (0 minute(s), 0 second(s))
0 error(s), 0 warning(s) (0 minute(s), 0 second(s))


-------------- Run: Debug in DSA Lab Assessment 1 (compiler: GNU GCC Compiler)---------------

Checking for existence: C:\Users\Sharadindu\Desktop\DSA Lab Assignments\DSA Lab Assessment 1\bin\Debug\DSA Lab Assessment 1.exe
Set variable: PATH=.;C:\Program Files\CodeBlocks\MinGW\bin;C:\Program Files\CodeBlocks\MinGW;C:\Program Files (x86)\Common Files\Intel\Shared Libraries\redist\intel64\compiler;C:\Windows\System32;C:\Windows;C:
\Windows\System32\wbem;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\Program Files (x86)\NVIDIA Corporation\PhysX\Common;C:\OrCAD\OrCAD_16.6_Lite\tools\pspice;C:\OrCAD\OrCAD_16.6
_Lite\tools\capture;C:\OrCAD\OrCAD_16.6_Lite\tools\bin;C:\OrCAD\OrCAD_16.6_Lite\OpenAccess\bin\Win32\opt;C:\OrCAD\OrCAD_16.6_Lite\tools\fet\bin;C:\OrCAD\OrCAD_16.6_Lite\tools\pcb\bin;C:\Program Files\MiKTeX
2.9\miktex\bin\x64;C:\Program Files\Git\cmd;C:\Program Files\nodejs;C:\Program Files\MATLAB\R2020a\runtime\win64;C:\Program Files\MATLAB\R2020a\bin;C:\Users\Sharadindu\AppData\Local\Microsoft\WindowsApps;C:
\Users\Sharadindu\AppData\Local\Programs\Microsoft VS Code\bin;c:\altera\10.1\modelsim_ase\win32aloem;C:\Users\Sharadindu\AppData\Roaming\npm;C:\Users\Sharadindu\AppData\Local\atom\bin
Executing: "C:\Program Files\CodeBlocks/cb_console_runner.exe" "C:\Users\Sharadindu\Desktop\DSA Lab Assignments\DSA Lab Assessment 1\bin\Debug\DSA Lab Assessment 1.exe"  (in C:\Users\Sharadindu\Desktop\DSA Lab
Assignments\DSA Lab Assessment 1\.)
```



```
Select "C:\Users\Sharadindu\Desktop\DSA Lab Assignments\DSA Lab Assessment 1\bin\Debug\DSA Lab Assessment 1.exe"
6421984
6421936
6421744

Process returned 0 (0x0)   execution time : 0.106 s
Press any key to continue.
```

Verification:

For 1D Array:

Address of A [I] = B + W * (I – LB)
Where,
B = Base address
W = Storage Size of one element stored in the array (in byte)
I = Subscript of element whose address is to be found
LB = Lower limit / Lower Bound of subscript, if not specified assume 0 (zero)

For 2D Array:

Address of an element of any array say “A[I][J]” is calculated in two forms as given:
(1) Row Major System (2) Column Major System
Row Major System:
The address of a location in Row Major System is calculated using the following formula:
Address of A [I][J] = B + W * [N * (I – Lr) + (J – Lc)]
Column Major System:
The address of a location in Column Major System is calculated using the following formula:
Address of A [I][J] Column Major Wise = B + W * [(I – Lr) + M * (J – Lc)]
Where,
B = Base address
I = Row subscript of element whose address is to be found
J = Column subscript of element whose address is to be found
W = Storage Size of one element stored in the array (in byte)
Lr = Lower limit of row/start row index of matrix, if not given assume 0 (zero)
Lc = Lower limit of column/start column index of matrix, if not given assume 0 (zero)
M = Number of row of the given matrix
N = Number of column of the given matrix

For 3D Array:

In three - dimensional array also address is calculated through two methods i.e; row-major order and column-major method.
To calculate address of element X[i,j,k] using row-major order :
    Location (X[i,j,k])=BA + MN (k-1) + N (i-1) + (j-1)
To calculate address of element X[i,j,k] using column-major order
    Location (X[i,j,k])=BA + MN (k-1) + M (j-1) + (i-1)

Question 4

Problem:

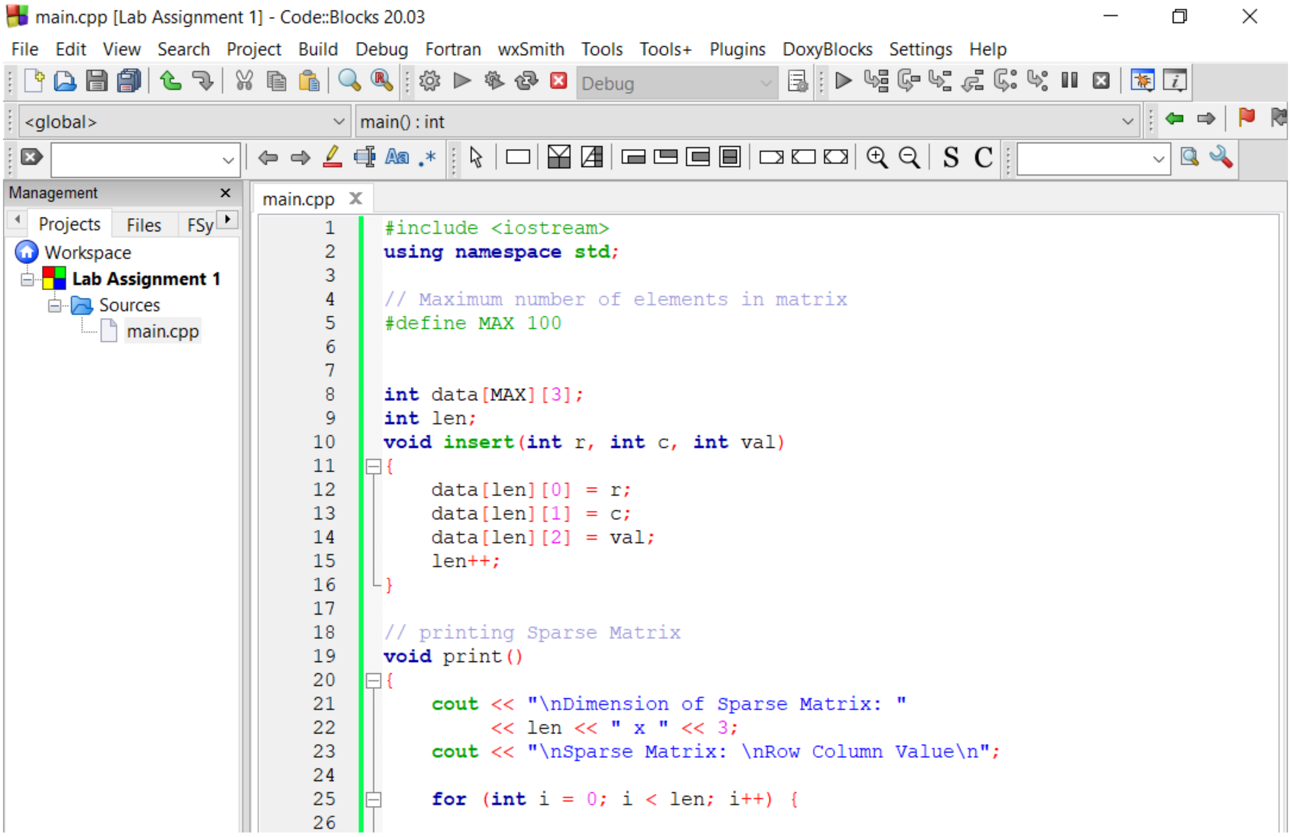
Write a program to obtain a sparse matrix representation B for the matrix A given below:

$$\begin{matrix} 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ -2 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & -3 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{matrix}$$

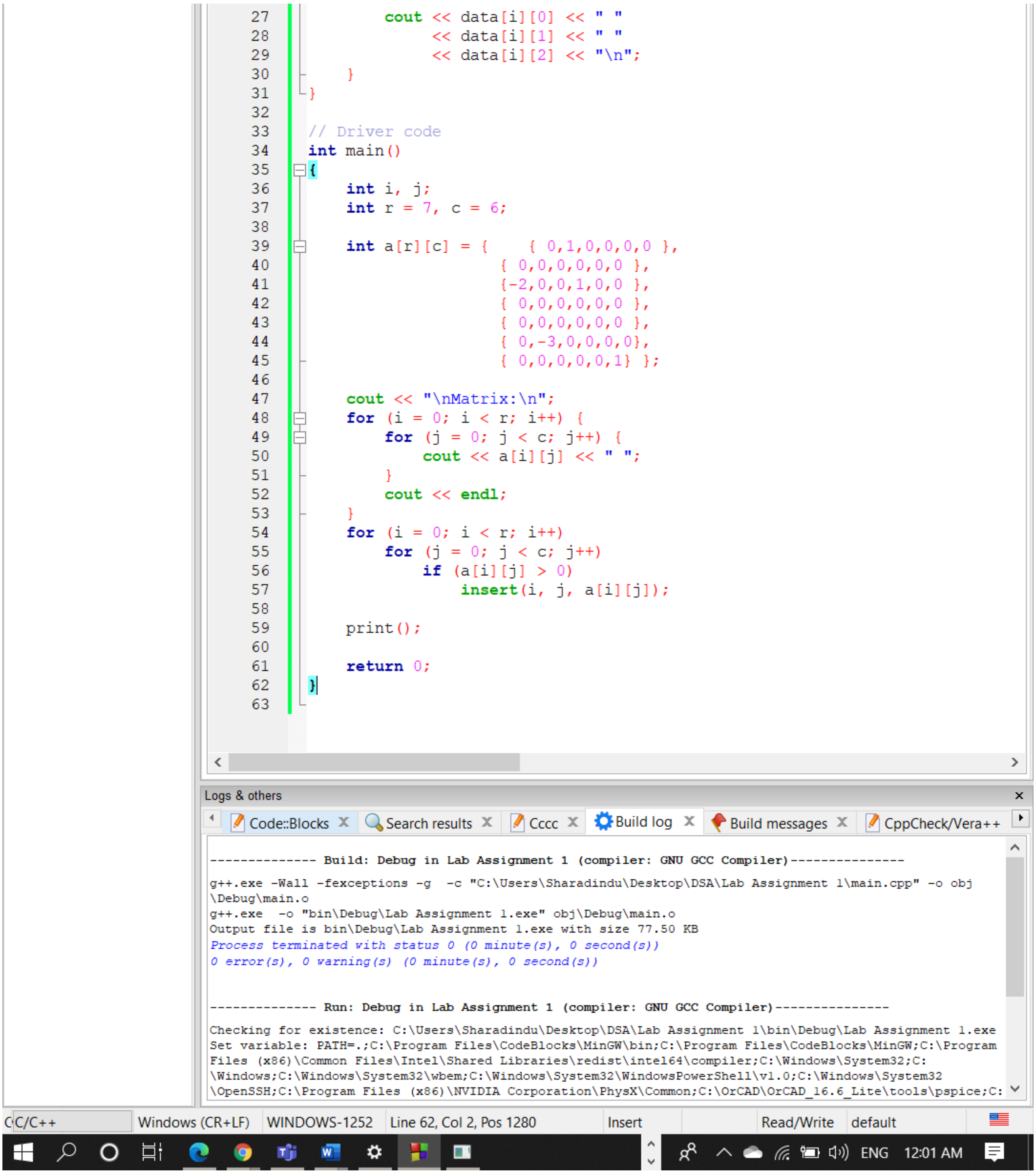
Code & Input:

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

// Maximum number of elements in matrix
#define MAX 100


int data[MAX][3];
int len;
void insert(int r, int c, int val)
{
    data[len][0] = r;
    data[len][1] = c;
    data[len][2] = val;
    len++;
}

// printing Sparse Matrix
void print()
{
    cout << "\nDimension of Sparse Matrix: "
         << len << " x " << 3;
    cout << "\nSparse Matrix: \nRow Column Value\n";

    for (int i = 0; i < len; i++) {

        cout << data[i][0] << " "
             << data[i][1] << " "
             << data[i][2] << "\n";
    }
}

// Driver code
int main()
{
    int i, j;
    int r = 7, c = 6;

    int a[r][c] = { { 0,1,0,0,0,0 },
                    { 0,0,0,0,0,0 },
                    {-2,0,0,1,0,0 },
                    { 0,0,0,0,0,0 },
                    { 0,0,0,0,0,0 },
                    { 0,-3,0,0,0,0},
                    { 0,0,0,0,0,1} };

    cout << "\nMatrix:\n";
    for (i = 0; i < r; i++) {
        for (j = 0; j < c; j++) {
            cout << a[i][j] << " ";
        }
        cout << endl;
    }
    for (i = 0; i < r; i++)
        for (j = 0; j < c; j++)
            if (a[i][j] > 0)
                insert(i, j, a[i][j]);

    print();

    return 0;
}
```

Screenshot of Code & Output:

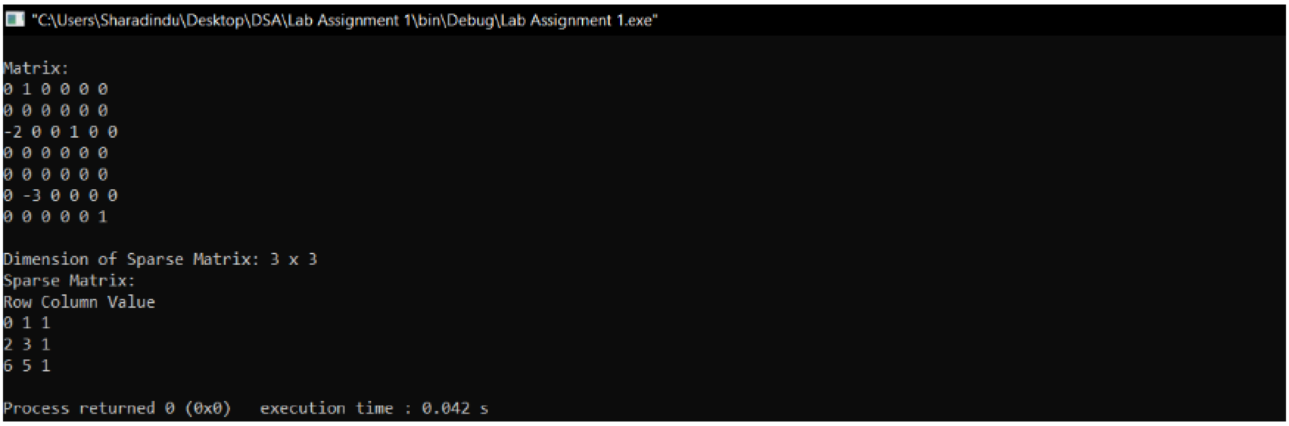

main.cpp [Lab Assignment 1] - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
Debug
<global>
main() : int
Management
Projects Files FSy
Workspace
Lab Assignment 1
Sources
main.cpp
main.cpp

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

// Maximum number of elements in matrix
#define MAX 100


int data[MAX][3];
int len;
void insert(int r, int c, int val)
{
    data[len][0] = r;
    data[len][1] = c;
    data[len][2] = val;
    len++;
}

// printing Sparse Matrix
void print()
{
    cout << "\nDimension of Sparse Matrix: "
         << len << " x " << 3;
    cout << "\nSparse Matrix: \nRow Column Value\n";

    for (int i = 0; i < len; i++) {

```



```
        cout << data[i][0] << " "
             << data[i][1] << " "
             << data[i][2] << "\n";
    }
}

// Driver code
int main()
{
    int i, j;
    int r = 7, c = 6;

    int a[r][c] = {     { 0,1,0,0,0,0 },
                    { 0,0,0,0,0,0 },
                    {-2,0,0,1,0,0 },
                    { 0,0,0,0,0,0 },
                    { 0,0,0,0,0,0 },
                    { 0,-3,0,0,0,0},
                    { 0,0,0,0,0,1} };

    cout << "\nMatrix:\n";
    for (i = 0; i < r; i++) {
        for (j = 0; j < c; j++) {
            cout << a[i][j] << " ";
        }
        cout << endl;
    }
    for (i = 0; i < r; i++)
        for (j = 0; j < c; j++)
            if (a[i][j] > 0)
                insert(i, j, a[i][j]);

    print();

    return 0;
}
```

```
-------------- Build: Debug in Lab Assignment 1 (compiler: GNU GCC Compiler)---------------
g++.exe -Wall -fexceptions -g  -c "C:\Users\Sharadindu\Desktop\DSA\Lab Assignment 1\main.cpp" -o obj
\Debug\main.o
g++.exe  -o "bin\Debug\Lab Assignment 1.exe" obj\Debug\main.o
Output file is bin\Debug\Lab Assignment 1.exe with size 77.50 KB
Process terminated with status 0 (0 minute(s), 0 second(s))
0 error(s), 0 warning(s) (0 minute(s), 0 second(s))


-------------- Run: Debug in Lab Assignment 1 (compiler: GNU GCC Compiler)---------------
Checking for existence: C:\Users\Sharadindu\Desktop\DSA\Lab Assignment 1\bin\Debug\Lab Assignment 1.exe
Set variable: PATH=.;C:\Program Files\CodeBlocks\MinGW\bin;C:\Program Files\CodeBlocks\MinGW;C:\Program
Files (x86)\Common Files\Intel\Shared Libraries\redist\intel64\compiler;C:\Windows\System32;C:
\Windows;C:\Windows\System32\wbem;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32
\OpenSSH;C:\Program Files (x86)\NVIDIA Corporation\PhysX\Common;C:\OrCAD\OrCAD_16.6_Lite\tools\pspice;C:
```



"C:\Users\Sharadindu\Desktop\DSA\Lab Assignment 1\bin\Debug\Lab Assignment 1.exe"

```

Matrix:
0 1 0 0 0 0
0 0 0 0 0 0
-2 0 0 1 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 -3 0 0 0 0
0 0 0 0 0 1

Dimension of Sparse Matrix: 3 x 3
Sparse Matrix:
Row Column Value
0 1 1
2 3 1
6 5 1

Process returned 0 (0x0)   execution time : 0.042 s
```

Question 5

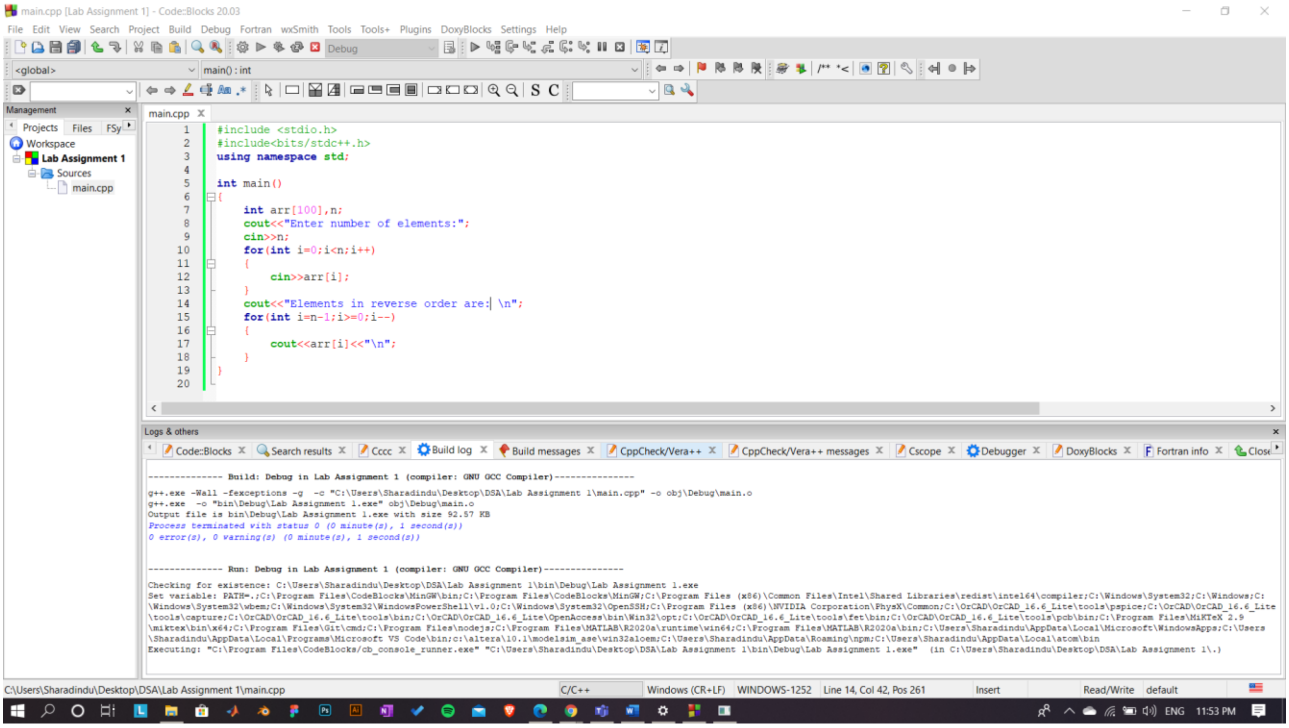
Problem:

WAP for Displaying Integer Array elements in reverse order.

Code & Input:

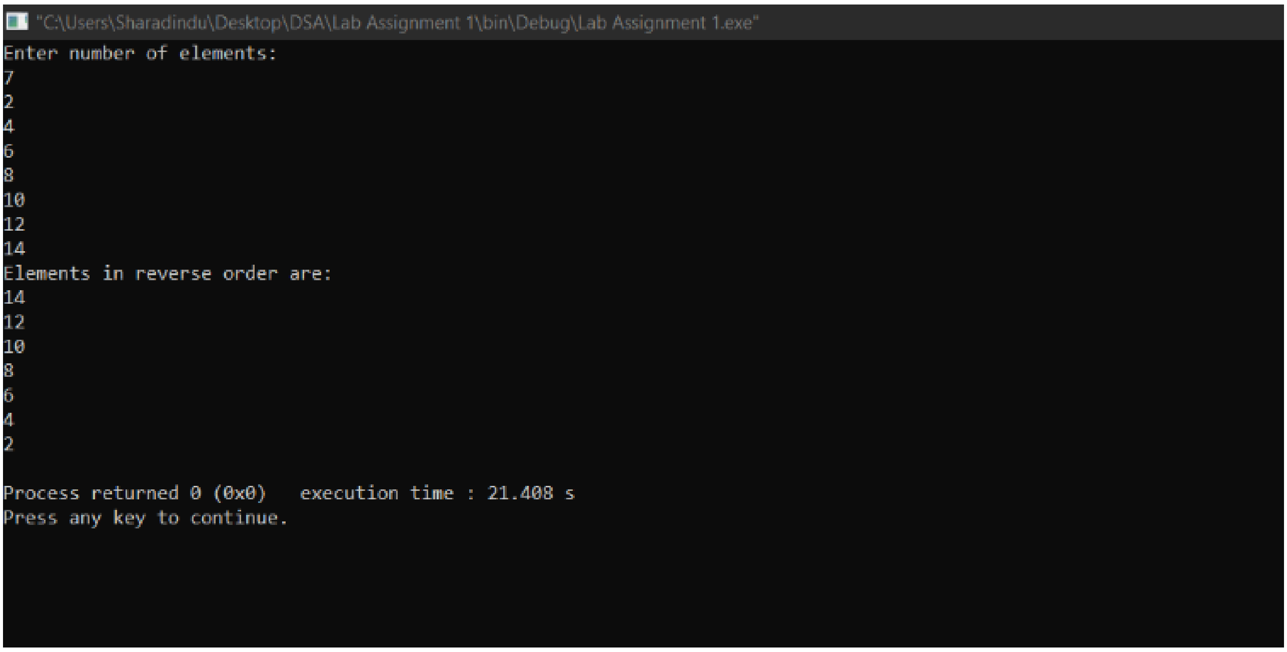
```
#include <stdio.h>
#include<bits/stdc++.h>
using namespace std;

int main()
{
    int arr[100],n;
    cout<<"Enter number of elements:";
    cin>>n;
    for(int i=0;i<n;i++)
    {
        cin>>arr[i];
    }
    cout<<"Elements in reverse order are: \n";
    for(int i=n-1;i>=0;i--)
    {
        cout<<arr[i]<<"\n";
    }
}
```

Screenshot of Code & Output:



```
#include <stdio.h>
#include<bits/stdc++.h>
using namespace std;

int main()
{
    int arr[100],n;
    cout<<"Enter number of elements:";
    cin>>n;
    for(int i=0;i<n;i++)
    {
        cin>>arr[i];
    }
    cout<<"Elements in reverse order are: \n";
    for(int i=n-1;i>=0;i--)
    {
        cout<<arr[i]<<"\n";
    }
}
```

```
-------------- Build: Debug in Lab Assignment 1 (compiler: GNU GCC Compiler)---------------

g++.exe -Wall -fexceptions -g  -c "C:\Users\Sharadindu\Desktop\DSA\Lab Assignment 1\main.cpp" -o obj\Debug\main.o
g++.exe  -o "bin\Debug\Lab Assignment 1.exe" obj\Debug\main.o
Output file is bin\Debug\Lab Assignment 1.exe with size 92.57 KB
Process terminated with status 0 (0 minute(s), 1 second(s))
0 error(s), 0 warning(s) (0 minute(s), 1 second(s))


-------------- Run: Debug in Lab Assignment 1 (compiler: GNU GCC Compiler)---------------

Checking for existence: C:\Users\Sharadindu\Desktop\DSA\Lab Assignment 1\bin\Debug\Lab Assignment 1.exe
Set variable: PATH=.;C:\Program Files\CodeBlocks\MinGW\bin;C:\Program Files\CodeBlocks\MinGW;C:\Program Files (x86)\Common Files\Intel\Shared Libraries\redist\intel64\compiler;C:\Windows\System32;C:\Windows;C:
\Windows\System32\wbem;C:\Windows\System32\WindowsPowerShell\v1.0;C:\Windows\System32\OpenSSH;C:\Program Files (x86)\NVIDIA Corporation\PhysX\Common;C:\OrCAD\OrCAD_16.6_Lite\tools\pspice;C:\OrCAD\OrCAD_16.6_Lite
\tools\capture;C:\OrCAD\OrCAD_16.6_Lite\tools\bin;C:\OrCAD\OrCAD_16.6_Lite\OpenAccess\bin\Win32\opt;C:\OrCAD\OrCAD_16.6_Lite\tools\fet\bin;C:\OrCAD\OrCAD_16.6_Lite\tools\pcb\bin;C:\Program Files\MiKTeX 2.9
\miktex\bin\x64;C:\Program Files\Git\cmd;C:\Program Files\nodejs;C:\Program Files\MATLAB\R2020a\runtime\win64;C:\Program Files\MATLAB\R2020a\bin;C:\Users\Sharadindu\AppData\Local\Microsoft\WindowsApps;C:\Users
\Sharadindu\AppData\Local\Programs\Microsoft VS Code\bin;c:\altera\10.1\modelsim_ase\win32aloem;C:\Users\Sharadindu\AppData\Roaming\npm;C:\Users\Sharadindu\AppData\Local\atom\bin
Executing: "C:\Program Files\CodeBlocks/cb_console_runner.exe" "C:\Users\Sharadindu\Desktop\DSA\Lab Assignment 1\bin\Debug\Lab Assignment 1.exe"  (in C:\Users\Sharadindu\Desktop\DSA\Lab Assignment 1\.)
```



"C:\Users\Sharadindu\Desktop\DSA\Lab Assignment 1\bin\Debug\Lab Assignment 1.exe"

```
Enter number of elements:
7
2
4
6
8
10
12
14
Elements in reverse order are:
14
12
10
8
6
4
2

Process returned 0 (0x0)   execution time : 21.408 s
Press any key to continue.
```