EXPERIMENT NUMBER –Practical 2.1

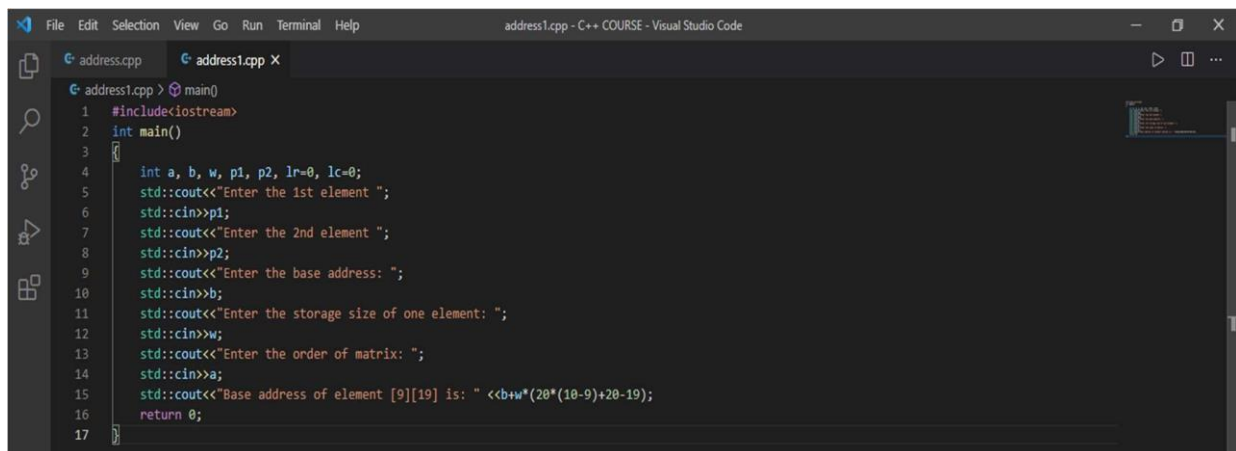|	
NAME – RAJDEEP JAISWAL.	SEMESTER – 2ND
UID-20BCS2761	DOF- 1 MARCH 2021
BRANCH – B.TECH(CSE).	SEC – 26 (B)

TOPIC OF EXPERIMENT – A program to input a matrix of dimension 10*20 with base address is 1100. Find the address of (9, 19) element of the matrix.

AIM OF THE EXPERIMENT- **Finding the address of the elements.**

FLOWCHART/ ALGORITHM
- **Start**
- **Enter the 1st and 2nd element**
- **Enter Base address**
- **Enter Storage size of element**
- **Enter the order of matrix**
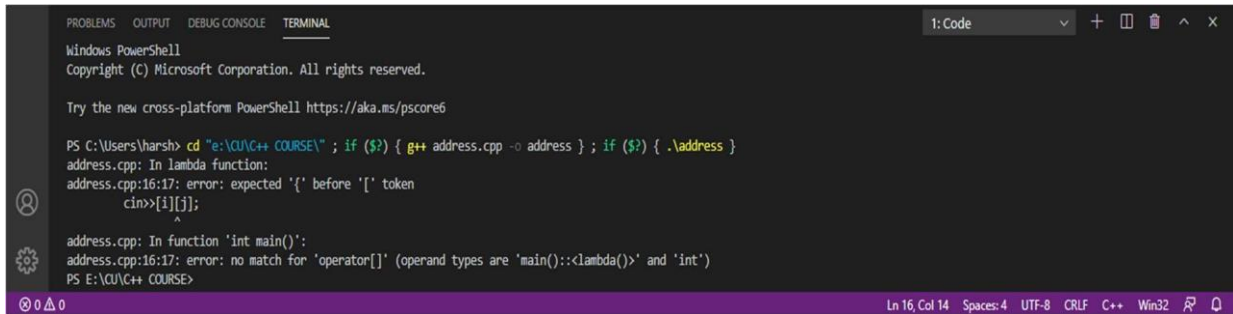- **Using the formula <<b+w*(20*(10-9)+(20-19))**
- **End**

PROGRAM CODE

```cpp
#include<iostream>
int main()
{
    int a, b, w, p1, p2, lr=0, lc=0;
    std::cout<<"Enter the 1st element ";
    std::cin>>p1;
    std::cout<<"Enter the 2nd element ";
    std::cin>>p2;
    std::cout<<"Enter the base address: ";
    std::cin>>b;
    std::cout<<"Enter the storage size of one element: ";
    std::cin>>w;
    std::cout<<"Enter the order of matrix: ";
    std::cin>>a;
    std::cout<<"Base address of element [9][19] is: " <<b+w*(20*(10-9)+20-19);
    return 0;
}
```

ERRORS ENCOUNTERED DURING PROGRAM'S EXECUTION

(Kindly jot down the compile time errors encountered)


```
PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL                                    1: Code        ∨  +  ⊡  🗑  ^  ✕
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\harsh> cd "e:\CU\C++ COURSE\" ; if ($?) { g++ address.cpp -o address } ; if ($?) { .\address }
address.cpp: In lambda function:
address.cpp:16:17: error: expected '{' before '[' token
        cin>>[i][j];
             ^
address.cpp: In function 'int main()':
address.cpp:16:17: error: no match for 'operator[]' (operand types are 'main()::<lambda()>' and 'int')
PS E:\CU\C++ COURSE>

⊗ 0 △ 0                                              Ln 16, Col 14   Spaces: 4   UTF-8   CRLF   C++   Win32
```

PROGRAMS' EXPLANATION (in brief)

The above program is used to find the address of element [9][19] the matrix of order 10*20, with base of 1100, and the size of the element is user defined.

OUTPUT


```
PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL                                    1: Code        ∨  +  ⊡  🗑  ^  ✕
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS E:\CU\C++ COURSE> cd "e:\CU\C++ COURSE\" ; if ($?) { g++ address1.cpp -o address1 } ; if ($?) { .\address1 }
Enter the 1st element 9
Enter the 2nd element 19
Enter the base address: 1100
Enter the storage size of one element: 2
Enter the order of matrix: 10*20
Base address of element [9][19] is: 1142
PS E:\CU\C++ COURSE>
```

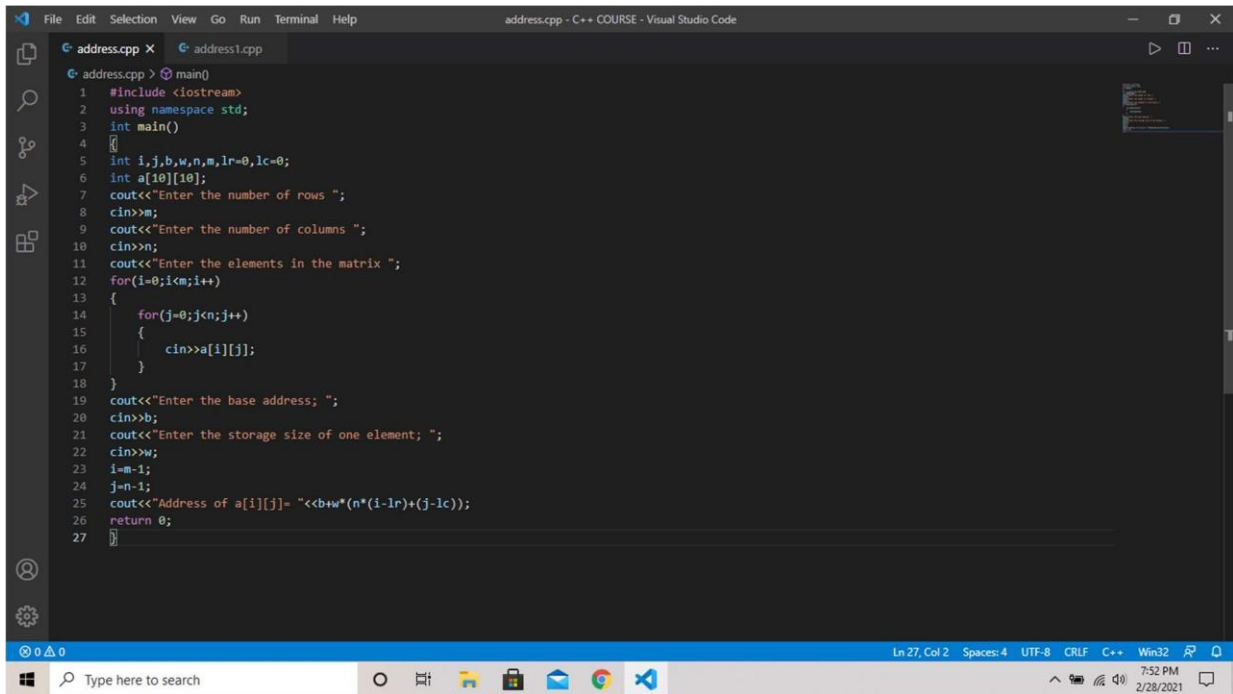| NAME – RAJDEEP JAISWAL.	SEMESTER – 2ND
UID-20BCS2761	DOF- 1 MARCH 2021
BRANCH – B.TECH(CSE).	SEC – 26 (B)

TOPIC OF EXPERIMENT – A program to input a matrix of dimension m*n with base address. Find the w (width) of each cell after applying Row major and print on the screen.

AIM OF THE EXPERIMENT- . Finding the w (width) of each cell after applying Row major and print on the screen.

FLOWCHART/ ALGORITHM
- **Start**
- **Enter the number of rows and column**
- **Enter the elements of the matrix**
- **Now we will run a loop to enter the rows and columns of the matrix**
- **Enter the base address**
- **Enter the storage size of the element**
- **Using the formula to calculate the address of the element <<b+w*(n*(i-Lr)+(j-Lc))**
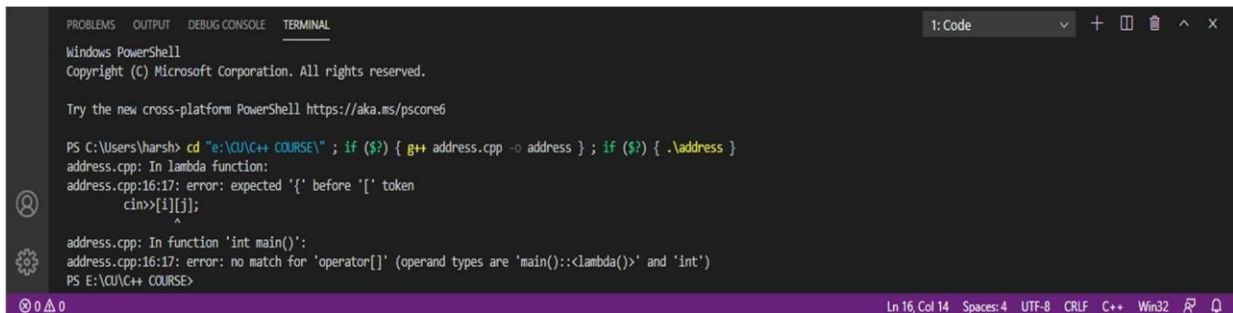- **End**

PROGRAM CODE

ERRORS ENCOUNTERED DURING PROGRAM'S EXECUTION

(Kindly jot down the compile time errors encountered)

PROGRAMS' EXPLANATION (in brief)

The above program is a user based program which takes input of number of rows and column, order and the element of matrix, base and size of element from the user and calculate the address of the element using Row major method.

OUTPUT


```
PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL                                    1: Code        ∨   +  ⊡  🗑  ∧  ×

PS E:\CU\C++ COURSE> cd "e:\CU\C++ COURSE\" ; if ($?) { g++ address.cpp -o address } ; if ($?) { .\address }
Enter the number of rows 2
Enter the number of columns 2
Enter the elements in the matrix 1
2
3
4
Enter the base address: 1100
Enter the storage size of one element: 2
Address of a[i][j]= 1106
PS E:\CU\C++ COURSE>
```

LEARNING OUTCOMES

- Identify situations where computational methods would be useful.

- Approach the programming tasks using techniques learnt and write pseudo-code.

- Choose the right data representation formats based on the requirements of the problem.

- Use the comparisons and limitations of the various programming constructs and choose the right one for the task.

EVALUATION COLUMN (To be filled by concerned faculty only)

Sr. No.	Parameters	Maximum Marks	Marks Obtained
1.	Worksheet Completion including writing learning objective/ Outcome	10	
2.	Post Lab Quiz Result	5	
3.	Student engagement in Simulation/ Performance/ Pre Lab Questions	5	
4.	Total Marks	20	