

NAME – RAJDEEP JAISWAL

DATE -

BRANCH – BTECH CSE

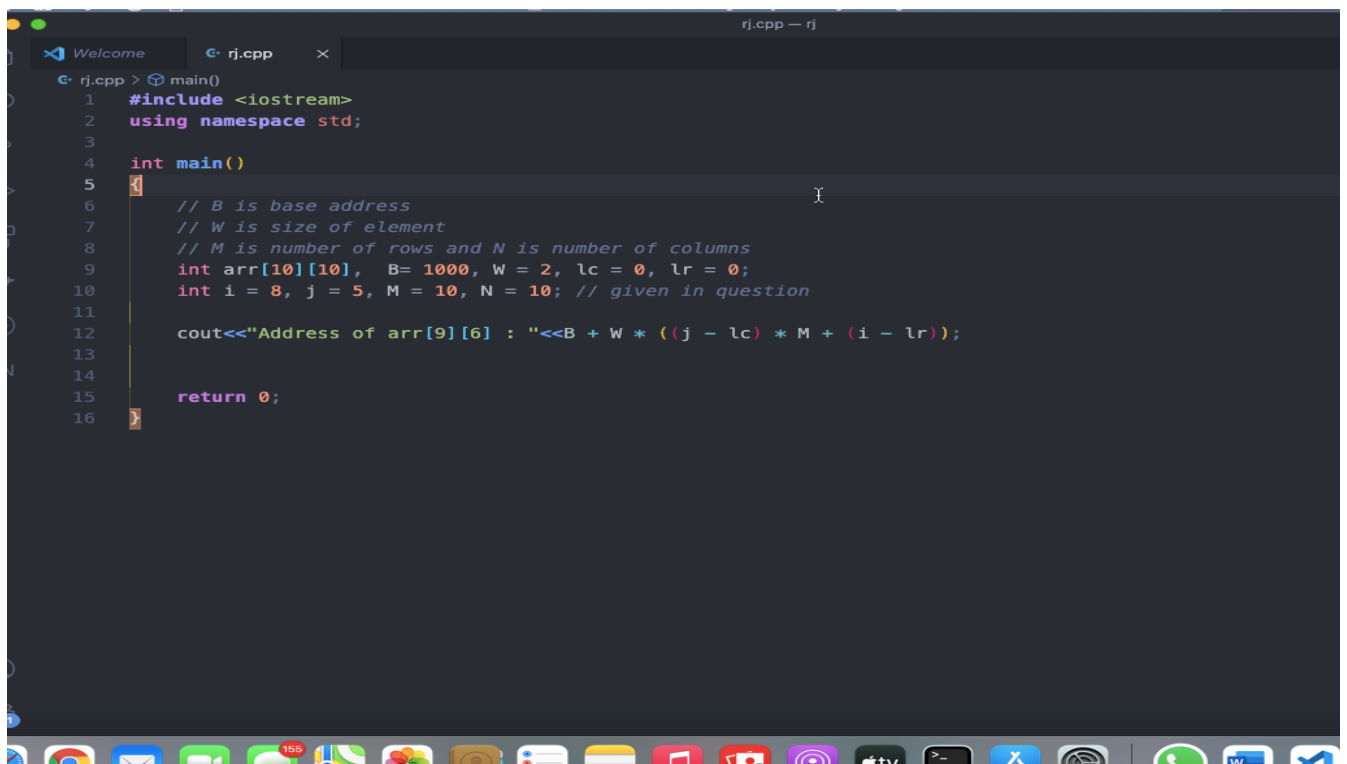
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SUB- DATA STRUCTURE ASSIGNMENT

Consider a two-dimensional array `arr[10][10]` which has base address = 1000 and the number of bytes per element of the array = 2. Now, compute the address of the element `arr[8][5]` assuming that the elements are stored in column-major order.

CODE IN COMPILER



```
1 #include <iostream>
2 using namespace std;
3
4 int main()
5 {
6     // B is base address
7     // W is size of element
8     // M is number of rows and N is number of columns
9     int arr[10][10], B= 1000, W = 2, lc = 0, lr = 0;
10    int i = 8, j = 5, M = 10, N = 10; // given in question
11
12    cout<<"Address of arr[9][6] : "<<B + W * ((j - lc) * M + (i - lr));
13
14
15    return 0;
16 }
```

CODE IN TEXT FORM –

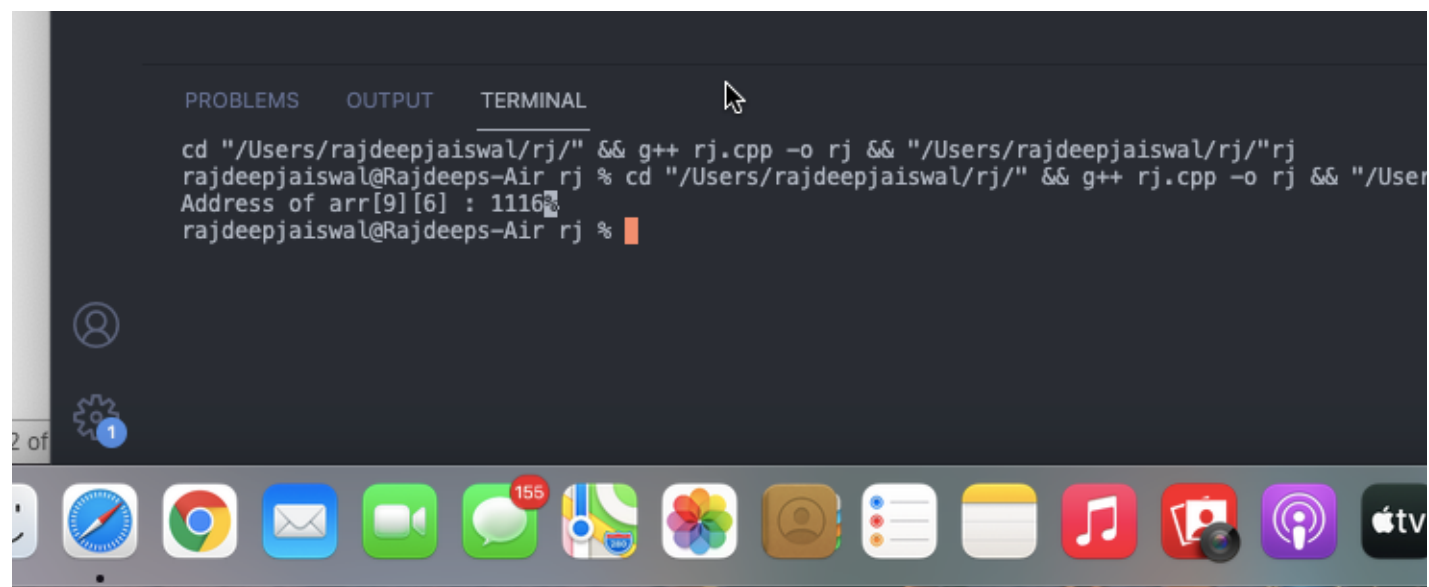
```
#include <iostream>
using namespace std;

int main()
{
    // B is base address
    // W is size of element
    // M is number of rows and N is number of columns
    int arr[10][10], B= 1000, W = 2, lc = 0, lr = 0;
    int i = 8, j = 5, M = 10, N = 10; // given in question

    cout<<"Address of arr[9][6] : "<<B + W * ((j - lc) * M + (i -
lr));

    return 0;
}
```

OUTPUT



```
PROBLEMS OUTPUT TERMINAL
cd "/Users/rajdeepjaiswal/rj/" && g++ rj.cpp -o rj && "/Users/rajdeepjaiswal/rj/"rj
rajdeepjaiswal@Rajdeeps-Air rj % cd "/Users/rajdeepjaiswal/rj/" && g++ rj.cpp -o rj && "/User
Address of arr[9][6] : 1116
rajdeepjaiswal@Rajdeeps-Air rj %
```

0