Write a complete C++ program that does the following. (Programs that correctly carry out some of the tasks will receive partial credit.)  75 pts
(1) The program asks the user to enter two integers a and b. Integers a and b must be greater than or equal to 3 and less than or equal to 12, in another word, the values must be in between 3 and 12, inclusive.
(2) If either of the user’s numbers is illegal the program terminates at once.
(3) The program prints $a + b$ rows each of which contains $a \times b$ columns of Xs, but after each group of b complete columns the program prints a | symbol.
An example run of the program,
Enter two integers between 3 and 12: 3 5
XXXXXX|XXXXXX|XXXXXX|
XXXXXX|XXXXXX|XXXXXX|
XXXXXX|XXXXXX|XXXXXX|
XXXXXX|XXXXXX|XXXXXX|
XXXXXX|XXXXXX|XXXXXX|
XXXXXX|XXXXXX|XXXXXX|
for (int r = 1; r <= a + b; r++){
    for (int g = 1; g <= a; g++){
        for (int c = 1; c <= b; c++){
            cout << “X”;
        }
        cout << “|”;
    }
    cout << endl;
}
//the above is another way to print
#include <iostream>
using namespace std;
int main(){
    int a, b;
    cout << “Two integer: ”;
    cin >> a >> b;
    if ( a > 12 || a < 3 || b > 12 || b < 3)
        return 0;
    for (int r = 1; r <= a + b; r++){
        for (int g = 1; g <= a; g++){
            for (int c = 1; c <= b; c++){
                cout << “X”;
            }
            cout << “|”;
        }
        cout << endl;
    }
    return 0;
}
Write C++ statements to carry out the following tasks. Do not write complete program, just give a few lines of C++ code.  20 pts
Print all odd numbers from 121 to 200, including 121
Ans:  //the following is another way
for (int i = 121; i <= 200; i++)
    if (i % 2 == 1) cout << i << “ ”;
Extra credit:  10pts
(a) Which is the output of the following C++ code assuming the program includes <cmath>, cout << sqrt(4.0); //This function calculates the square root of 4. Ans: 1) 2 2) 2 3) 4.0 4) 4 5) error
(b) Which of the following is the correct C++ code that prints a random number in the range 23 to 34, inclusive. Ans: 2 To get the range from rand(), % (34-23+1) + 23
1) cout << rand()%34 + 23; 2) cout << rand()%12 + 23;
3) cout << rand(23, 34); 4) cout << rand(23)%34;