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ASSIGNMENT 4 LAB PROGRAMMING

Problem 1.

Create a program to create full of the pyramid using * symbols (as shown in the screenshot) with the height of the pyramid determined by the user.

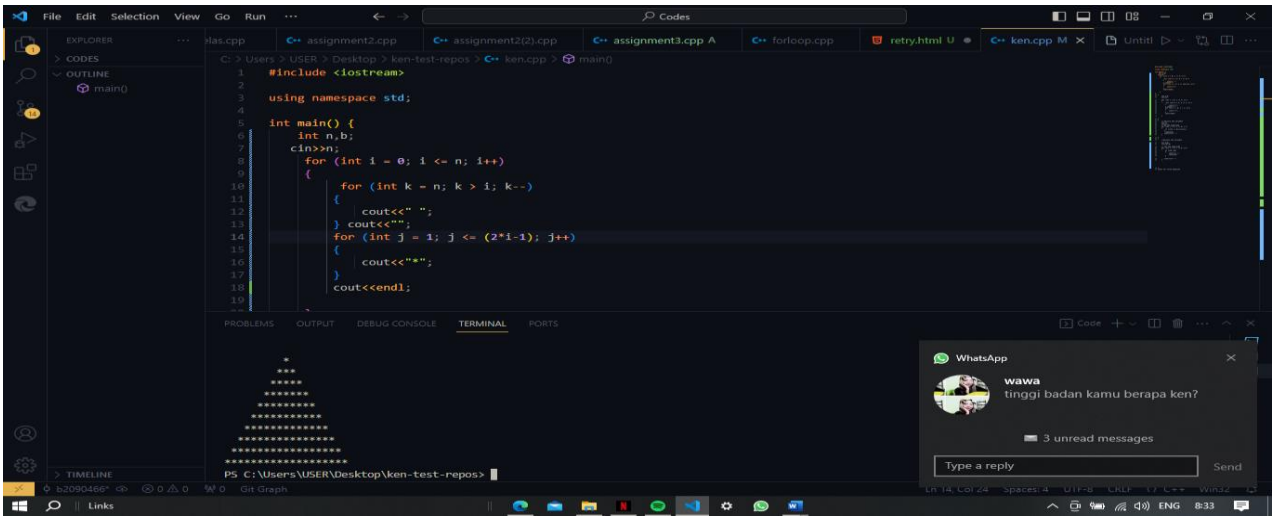
Answer =

```
#include <iostream>

using namespace std;

int main() {
    int n,b;
   cin>>n;
     for (int i = 0; i <= n; i++)
     {
          for (int k = n; k > i; k--)
         {
             cout<<" ";
         } cout<<"";
         for (int j = 1; j <= (2*i-1); j++)
         {
             cout<<"*";
         }
         cout<<endl;
```

Prove=



Problem 2.

Create a program to display the multiplication tables as shown in the screenshot

```
Insert the maximum number to calculate the multiplication table: 5
     0  1  2  3  4  5
0 -  0  0  0  0  0  0
1 -  0  1  2  3  4  5
2 -  0  2  4  6  8 10
3 -  0  3  6  9 12 15
4 -  0  4  8 12 16 20
5 -  0  5 10 15 20 25
Press Enter to continue...

Process returned 0 (0x0)   execution time : 342.626 s
Press any key to continue.
```

Answer =

```cpp
#include <iostream>

using namespace std;

int main() {
    int n;
    cin>>n;

    for (int i = 1; i <= n; i++)
    {
       for (int j = 1; j <= n; j++)
       {
        cout<<i*j<<" ";
        }
        cout<<endl;
       }

    }
```

Prove =

Problem 3.

Create a program to display even numbers whose value is less than or equal to the input number. Then display it from the largest value to zero.

Example:

Input: 7 -> Output: 6 4 2 0

Input: 4 -> output: 4 2 0

Answer =

```cpp
#include <iostream>

using namespace std;

int main() {
    // declare the variable
    int n;
    cin>>n;
    // do the algorithm
    for (int i = n; i >= 0; i--)
    {
        if ((i%2 != 0)||(i==n))
       {
        continue;
       }cout<<i<<" ";
    }

}
```

Problem 4.

Create a program to generate a pattern according to the following example.

```
enter 2 integers: 8 2
output:
1 * 3 * 5 * 7 *
```

```
enter 2 integers: 15 4
output:
1 2 3 * 5 6 7 * 9 10 11 * 13 14 15
```

Input: N K

With : $1 \le N \le 100$; $1 \le K \le N$

Answer :

```cpp
#include <iostream>

using namespace std;

int main() {
    //declare the variable

    int K,N;
cout<<”enter two integers :”;
    cin>>K>>N;


    // set the algorithm
    for (int i = 1; i <= K; i++)
    {
        if (i%N ==0)
        {
            cout<<"* ";
            continue;
        }

       cout<<i<<" ";
    }
```

Prove=