The following program does not work. Run this in the debugger. Set a breakpoint at the first marked statement. Run the program one statement at a time until you figure out what’s wrong. Fix the problem and set a breakpoint at the second marked statement. Again, run one statement at a time until you figure out what’s wrong. Fix the problem and run the program to completion.

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

int main()
{
    int i, j;
    int Adiag[25][25];

    // create diagonalization array
    for (i=0 ; i<25 ; i++)
    {
        for (j=0 ; j<25 ; i++)
        {
            Adiag[i][j] = i+j; ←
        }
    }
    // print diagonalization array
    for (i=0 ; i<25 ; i++)
    {
        for (j=0 ; i<25 ; j++)
        {
            cout<<" "<<"Adiag[i][j]; ←
        }
        cout<<endl;
    }
    return 0;
}
```

List the bugs you found. What did the program do BEFORE each bug was fixed?
The following program has a bug. Set breakpoints in the debugger, and find out what the bug is.

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

// function prototypes
void FillArray(int * Arr);

// create an array of 100 random numbers
int main()
{
    // make the array extra long just in case
    int * RandArray = new int[200];
    FillArray(RandArray);
    int * APtr;
    // demonstrate the use of pointers in an array loop
    for (APtr = RandArray ; RandArray != 0 ; RandArray++)
    {
        cout<<" \
```
```