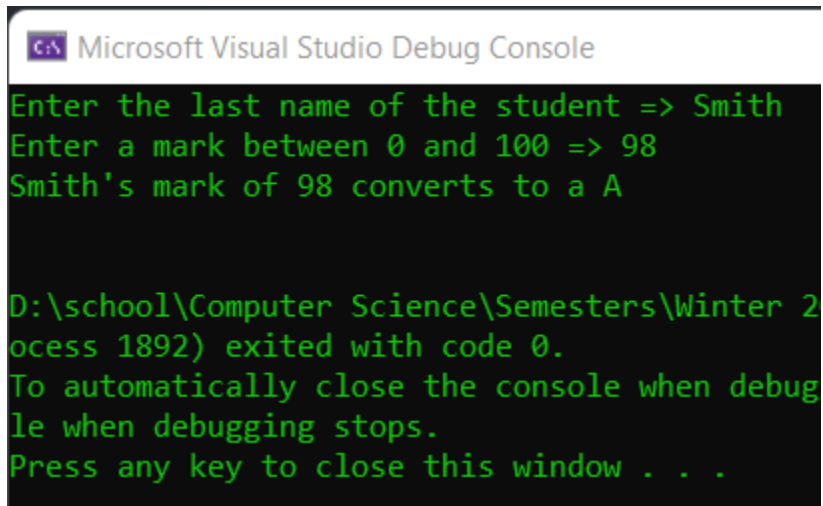## Introduction to Methods (with Debugging)

Remember: When asked "What is the output", be sure to include **everything** in the Output Window (you need to copy the entire contents of the Output Window … includes prompt strings, input and output).

b) What is the syntax error and how did you fix it?

There was no argument being passed into the MarkToGrade() method call in the main method. I passed the int variable inpMark as an argument to the method call which resolved the error.
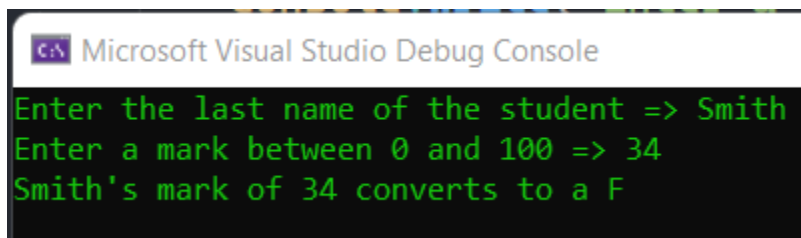
What is the output?

CA Microsoft Visual Studio Debug Console

```
Enter the last name of the student => Smith
Enter a mark between 0 and 100 => 98
Smith's mark of 98 converts to a A


D:\school\Computer Science\Semesters\Winter 2
ocess 1892) exited with code 0.
To automatically close the console when debug
le when debugging stops.
Press any key to close this window . . .
```

c) What is the output?

CA Microsoft Visual Studio Debug Console

```
Enter the last name of the student => Smith
Enter a mark between 0 and 100 => 34
Smith's mark of 34 converts to a F
```

d) <mark>What is the output?</mark>

```
Microsoft Visual Studio Debug Console
Enter the last name of the student => Smith
Enter a mark between 0 and 100 => 59
Smith's mark of 59 converts to a D
```

e) <mark>What is the output?</mark>

```
Microsoft Visual Studio Debug Console
Enter the last name of the student => Smith
Enter a mark between 0 and 100 => 72
Smith's mark of 72 converts to a C
```

f) <mark>What is the output?</mark>

```
Microsoft Visual Studio Debug Console
Enter the last name of the student => Smith
Enter a mark between 0 and 100 => 83
Smith's mark of 83 converts to a B
```

g) <mark>What is the output?</mark>

```
Microsoft Visual Studio Debug Console
Enter the last name of the student => Smith
Enter a mark between 0 and 100 => -1
Enter a mark between 0 and 100 => 101
Enter a mark between 0 and 100 => 90
Smith's mark of 90 converts to a A
```

To test the conditional statements for mark to grade letter in the method MarkToGrade.

h)

Once I stepped back into main to the method call, the MarkToGrade method was removed from the call stack and the main method remains there. The Locals window also changed when I jumped back into the main method and is showing 4 variables:
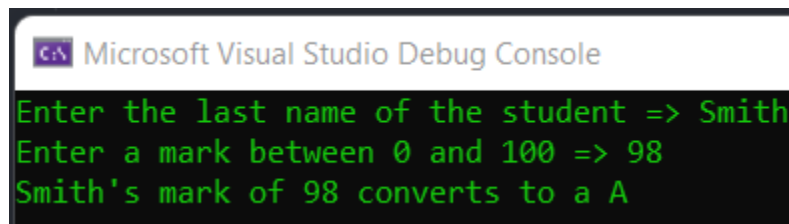
- Lab5.MarkToGrade returned   66 'B'
- inpMark   75
- lastName   "Smith"
- grade   32 ''

As I continued to step through to the end of the program the variable Lab5.MarkToGrade was removed once I stepped into the next part of the program after the method call was assigned to the variable grade, and the grade variables value changed to Lab5.MarkToGrade in the Locals window.

i)

I got an error message stating that inpMark does not exist in the current context because it is not a global variable or defined in the MarkToGrade method. It is declared in the main method and only able to be accessed within that method.

j)

What I noticed that was different is that one variable is being used to store the grade letter, and that variable is able to be accessed by both methods. One is declaring the variable within the method body, and the other requires the variable as an argument. Because of this the output is the same in both parts.

 Line 35 was removed because the variable is being declared as a parameter to the method rather than within the method body.

Line 55 was removed because the method's return type changed from type char to void, meaning that the method has no return value.

Line 21 had to change because there would have been a type error trying to store a void or null value into a variable of type char. When a method has no return type it can be called on its own with having to be stored in a variable of the same type.

k)

I got two error messages, one for missing an argument in the method call, and the second error was for trying to store a null value into a variable (grade) of type char.

I got an error for trying to store the value of the method call, which is null, into a variable of type char.

I got an error message for passing the wrong variable types as arguments into the method call