Step Into C++: Some Basics

Mr. Neat

C++

Applications,
Applications,
Applications!

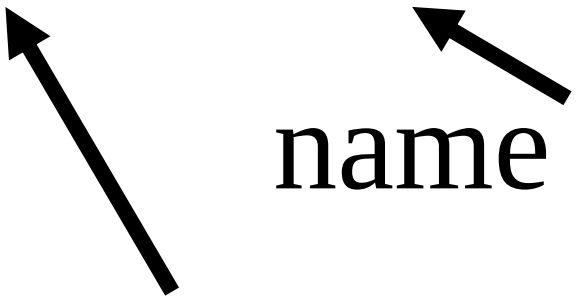
Let’s write our first program…

Multiply 2 integers

What kind of application is this?

Need to store the integers

```
int num1;
int num2;
int answer;
```



name of integer variable

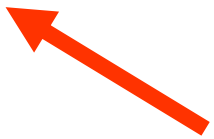
means type integer

```
num1 = 5;
num2 = 4;
answer = num1*num2;
```

What is happening in RAM?

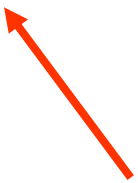
Is anything wrong
with
our calculator?

```
#include <iostream.h>

main()
{
    int answer;
    // blah blah calculator stuff
    cout << answer;
}
```



from RAM to screen

```
#include <iostream.h>

main()
{
    int num1;
    cin >> num1;
}
```

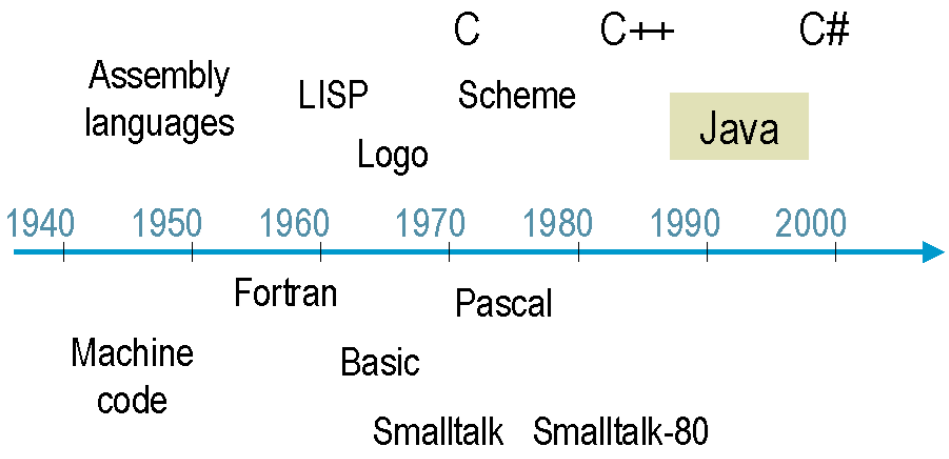


from keyboard to RAM

```
#include <iostream.h>

main()
{
    cout << “I love school”;
}
```

called a string

Programming Languages

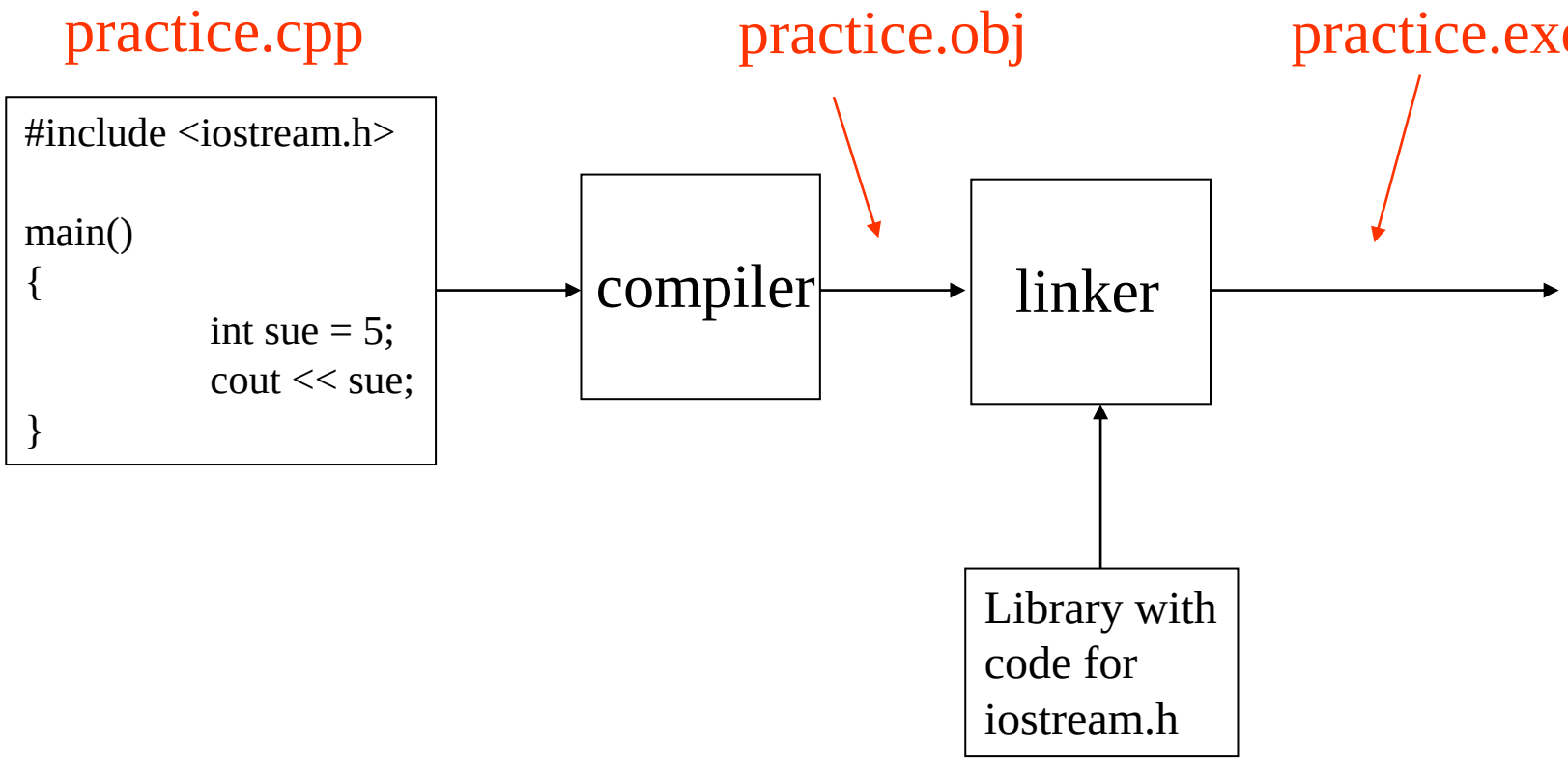


Compiled Languages

Software Development Tools

- Editor
  - programmer writes *source code*
- Compiler
  - translates the source into *object code* (instructions specific to a particular CPU)
- Linker
  - converts one or several object modules into an executable program
- Debugger
  - stepping through the program “in slow motion,” helps find logical mistakes (“bugs”)

Running a C++ Program



C++ Lab1

- make a calculator that multiplies 2 integers
- display the answer on the screen
- make it user friendly

Calculator Specs

- Ask the user for two integers.
- Load two integer variables with the two entered values.
- Multiply the two values together and store the answer in a third integer variable.
- Write the third integer variable (answer) to the screen.

Sample Output:

Please enter first number: 7
Please enter second number: 8

Answer is: 56

Road Map to Calculator

Make an application that:

- 1a – writes “I love school” to the screen.
- 1b – defines an integer variable and stores a value in the variable and writes ten times that value to the screen.
- 1c – gets a value from the keyboard and stores it in a variable and writes it back to the screen. Then replaces the variable value with ten times the original variable value and writes that new value to the screen.
- 1d - now make a calculator as described for Lab#1

Any ?'s