Classic Approaches
A common C program line:  

```c
#include <stdio.h>
```

But that is not C; rather, it's a . . .

---

Two varieties of embedded SQL:
Cursors

A Problem:

How many tuples will be produced by your query?

Preprocessor Examples

See the Sample Programs! (If available . . .)
The Library Approach

ODBC vs. JDBC

ODBC:

JDBC:
JDBC

Core capabilities:

Some related technologies:

Using JDBC (1 / 4)

1. Establish connection to a data source
Using JDBC (2 / 4)

(c) Connect to the DBMS

Connection dbConnect = DriverManager.getConnection ("jdbc:oracle:thin:@host.foo.bar.com:1234:oracle", "username", "password");

Using JDBC (3 / 4)

2. Send SQL statements to that source

Create a Statement object:

Statement stmt = dbConnect.createStatement();

Ask it to execute the SQL query:

ResultSet answer = stmt.executeQuery ("SELECT sno, status FROM s");
3. Process returned results and messages

JDBC uses cursors, too, but the details are implicit.

Before the first read:

Then, fetch field values by type. E.g.:

Accessing MetaData with JDBC

First, get a ResultSetMetaData object by calling:

Then, fetch the metadata you want to see. E.g.:

To get result cardinality: