PROGRAM TERMINATION

exit **and** return

Delroy A. Brinkerhoff

EXIT STATUS

- Whenever a program terminates (stops running or ends its execution), it returns an integer, called the *exit status*, to the operating system

    - 0   normal, non-error exit

    - non-0   some error was detected (no correlation between status and error)

return

- The `return` statement causes a function to return to the function caller
  - Can only be used to end a program when called from main
  - main returns to the operating system; which can use the status in scripts & batch files
  - `return 0;` returns a **0**, non-error, status to the operating system

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

int main()
{
    . . .
    return 0;
}
```

OLD ANSI STANDARD

- Standard allowed two version of main:

  - void main

  - int main

  - Standard changed mid 1990's

```
void main()
{
        .
        .
        .
}
```

exit

- Use the exit function to terminate a program from any location:
  - `exit(status);`

```
void other_function()
{
        . . .
    if (condition1)
        exit(2);        // error
    else if (condition2)
        exit(0);        // non-error
        . . .
}
```