

Errors in Code...

- **Problem:**

We want to avoid certain values for a variable.

- **Question:**

How?

General Hints

- `assert (expr) ;`
 - `expr` is `true`: nothing happens
 - `expr` is `false`: stop program

Example

Problem: Some inputs are dangerous.

```
#include <iostream>

int main () {
    int a;
    std::cin >> a;
    int b;
    std::cin >> b;

    // Output: a/b
    std::cout << a/b << "\n";

    return 0;
}
```

Problem for:

b == 0

Example

Problem: Some inputs are dangerous.

`assert ensures`

`b != 0`

```
return 0;
```

```
}
```

Example

Problem: Some inputs are dangerous.

```
#include <iostream>
#include <cassert>

int main () {
    int a;
    std::cin >> a;
    int b;
    std::cin >> b;
    assert(b != 0);

    // Output: a/b
    std::cout << a/b << "\n";

    return 0;
}
```

Example

Problem: Some inputs are dangerous.

```
#include <iostream>
```

```
3
0
a.out: ./Root/assert_expl.cpp:9: int main(): Assertion `b != 0' failed.
Aborted
```

0 ➤ Send

```
// Output: a/b
std::cout << a/b << "\n";

return 0;
}
```

assert – Why?

- Still an easy example...
- So **why** and **where** is `assert` useful?

assert – Why?

- Still an easy example...
- So **why** and **where** is `assert` useful?
 - **Long programs:** for overview
 - **User-Inputs required:** for safety
 - **Multiple programmers:** for safety