

Selections

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Outlines

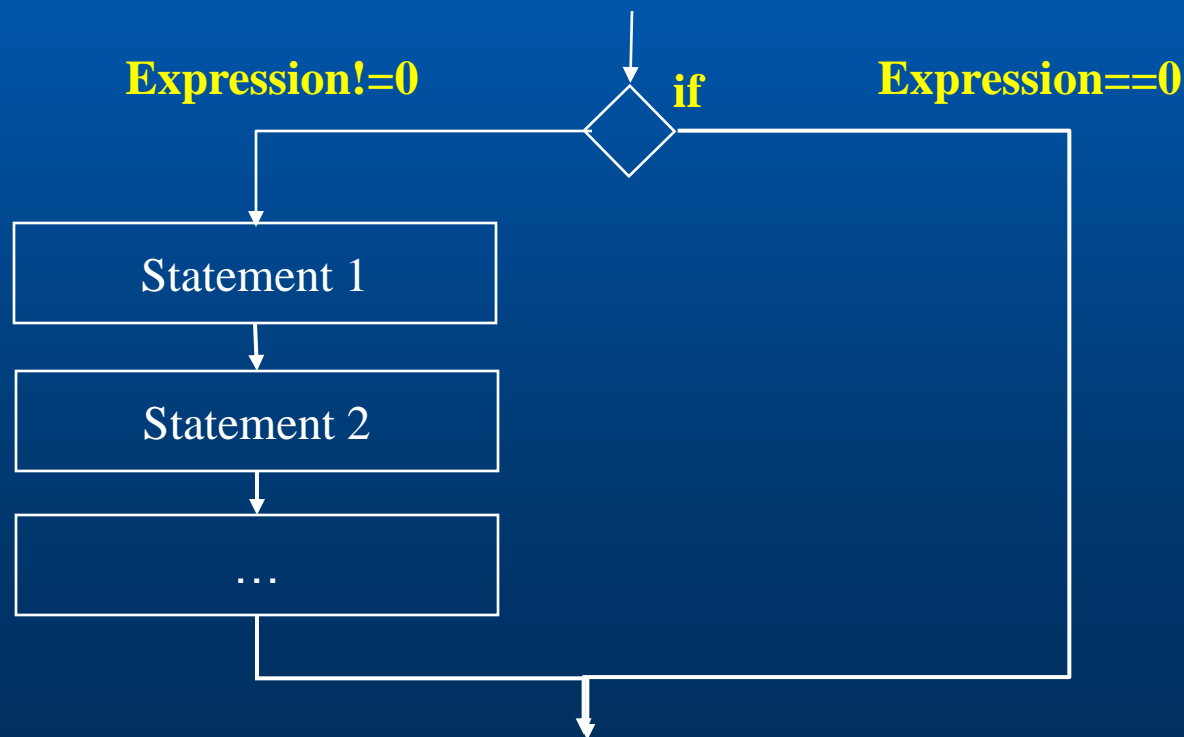
- **Introduction**
- **Simple selection structures**
- **Example 1**
- **Example 2**

Introduction

- Sequence, selection, repetition control structures
- Latter on complex selections
- Selection
 - **What** code to execute and **when**

Simple Selection Structures (1/6)

- One-way selection
 - Swim lane diagram



Simple Selection Structures (2/6)

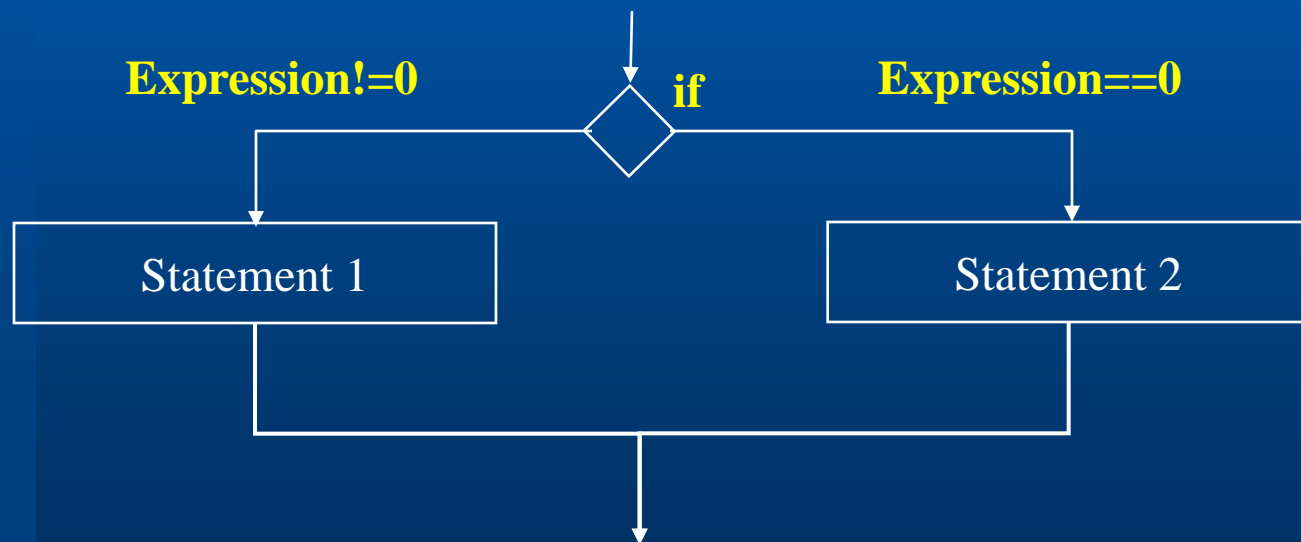
- **One-way selection**

```
if (Expression)  
{  
    Statement 1;  
    Statement 2;  
    ...  
}  
/*end if*/
```

- Selection/conditional expression
- Then part
- **C does not support Boolean type**
- **0 for false, 1 for true**
 - Not false → true

Simple Selection Structures (3/6)

- **Two-way selection**
 - Swim lane diagram



Simple Selection Structures (4/6)

- **Two-way selection**

```
if (Expression)
    Statement 1;
else
    Statement 2;
/*end if*/
```

Simple Selection Structures (5/6)

- **Conditional expression**
 - **Relational operators**
 - Equal to, ==
 - Not equal to, !=
 - Less than, <
 - Less than or equal to, <=
 - Greater than, >
 - Greater than or equal to, >=

Simple Selection Structures (6/6)

- Rules for evaluation of expressions
 - Precedence rule
 - Associativity rule

Precedence	Operator	Associativity
1 (highest)	()	Left
2	Unary+, unary-	Right
3	*, /	Left
4	+, -	Left
5	<, <=, >, >=	Left
6	==, !=	Left
7 (lowest)	=	Right

Example 1

- **General C**
- **Enter 1 to draw a rectangle,
otherwise draw a triangle**
- **05_c01.c**

Example 2

- **Robotic C**
- **If table is white, go forward; if table is black, rotate clockwise**
- **05_NXC01.c**