

# Short-term Hands-on Supplementary Course on C Programming



## **SESSION 2: Conditional Statements**

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Time: 6:30 - 8:00 PM

Date: 18 May 2022

Location: Online



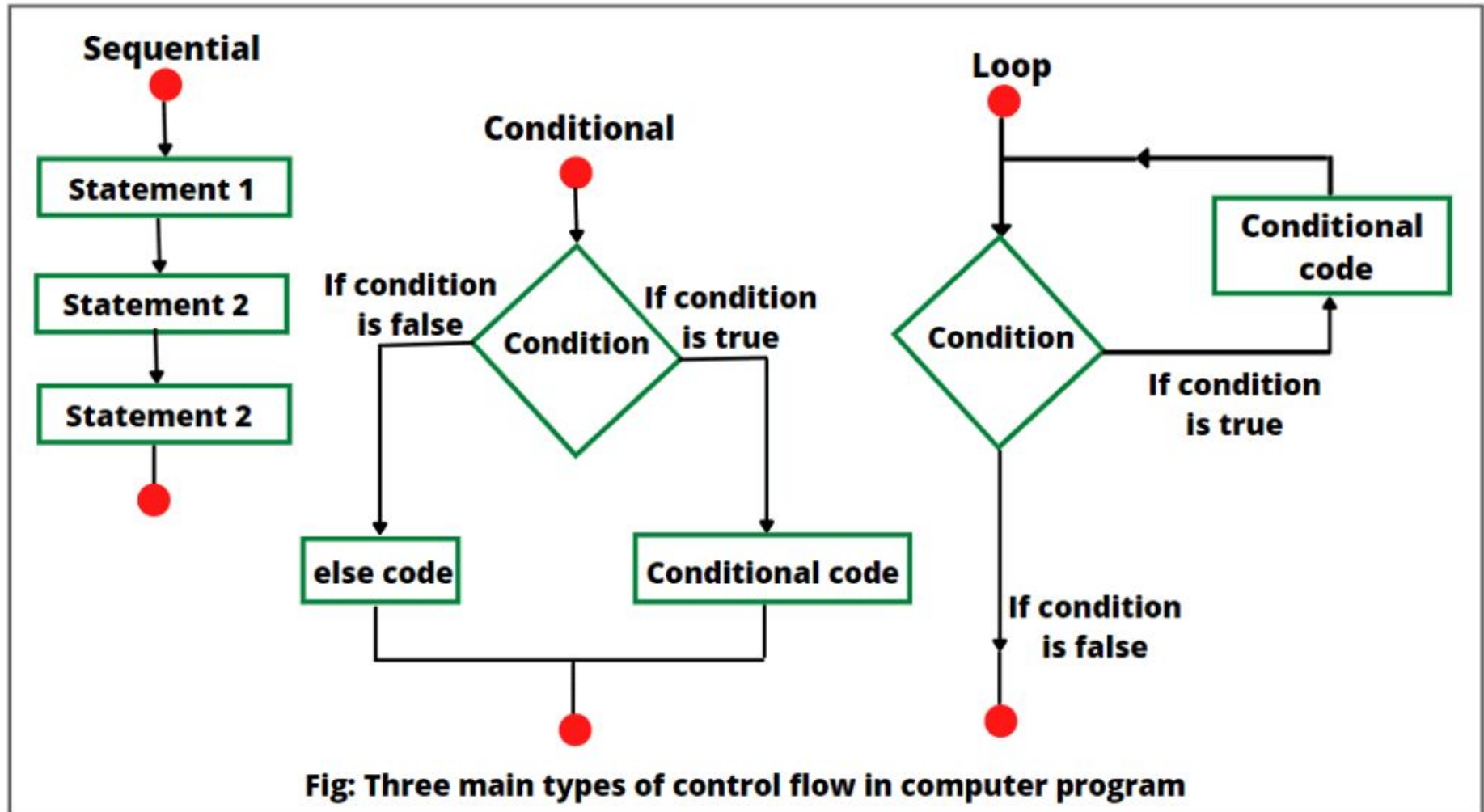
# Agenda

1. Administrative Instructions
2. Flow of Control
3. Sequential Flow
4. Conditional (Decision) Flow of Control
  - a. if-then (and nested if-then)
  - b. if-then-else
  - c. if-elseif-elseif-...-else
  - d. switch-case
  - e. Ternary or conditional operator
5. Tutorial: Calculator App
6. Next Session

# Administrative Instructions

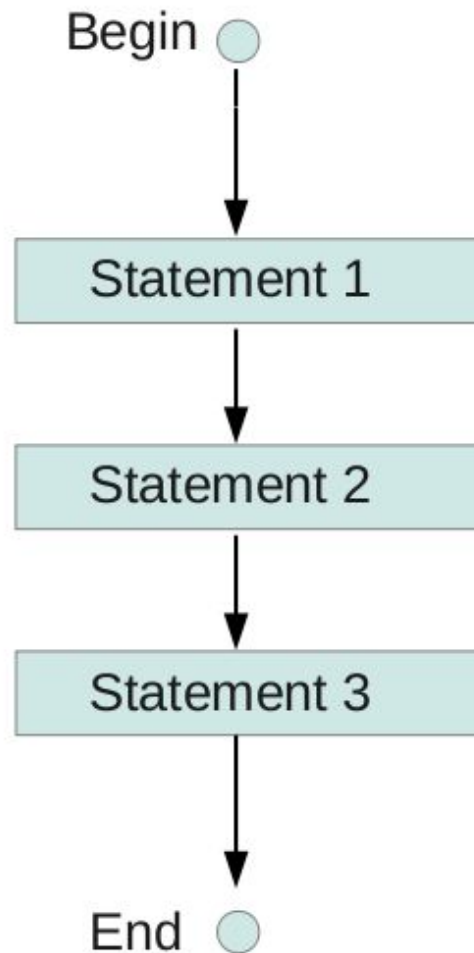
- Please fill out the feedback form [here](#)
- You can find all the information related to the course [here](#)
- Join us on Microsoft Teams,  
Team Code: **rzlaicv**

# Flow of Control



# Sequential Flow

```
int main()  
{  
    Statement1;  
    Statement2;  
    ...  
    StatementN;  
}
```

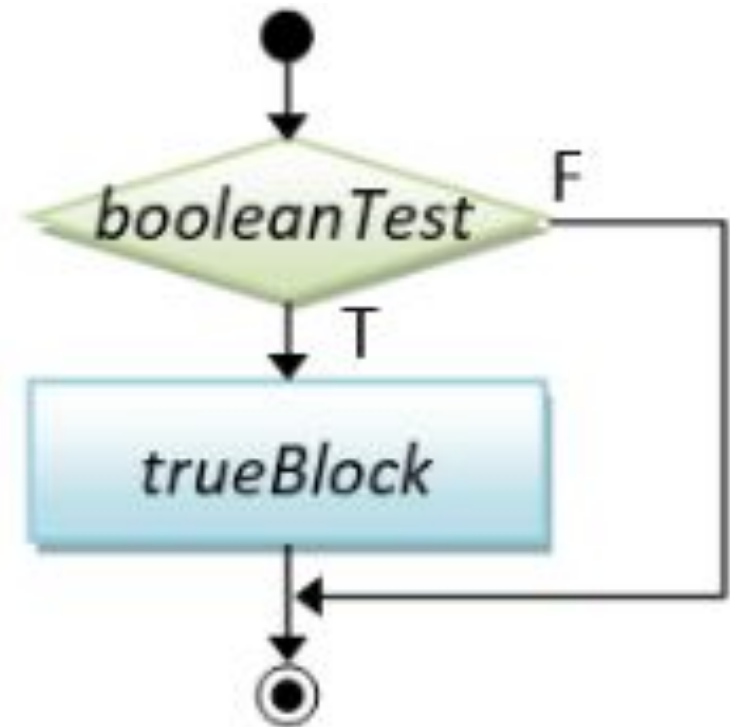


Sequential



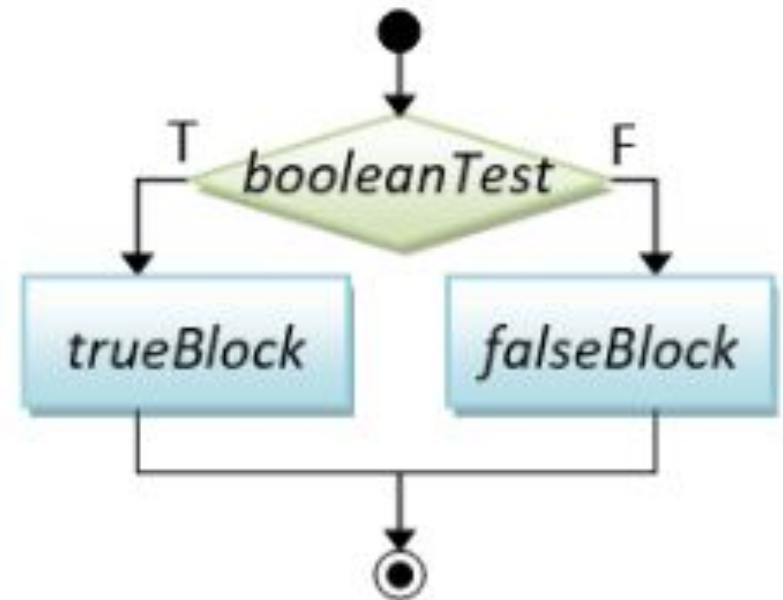
# if-then

```
// if-then  
if ( booleanExpression ) {  
    true-block ;  
}
```



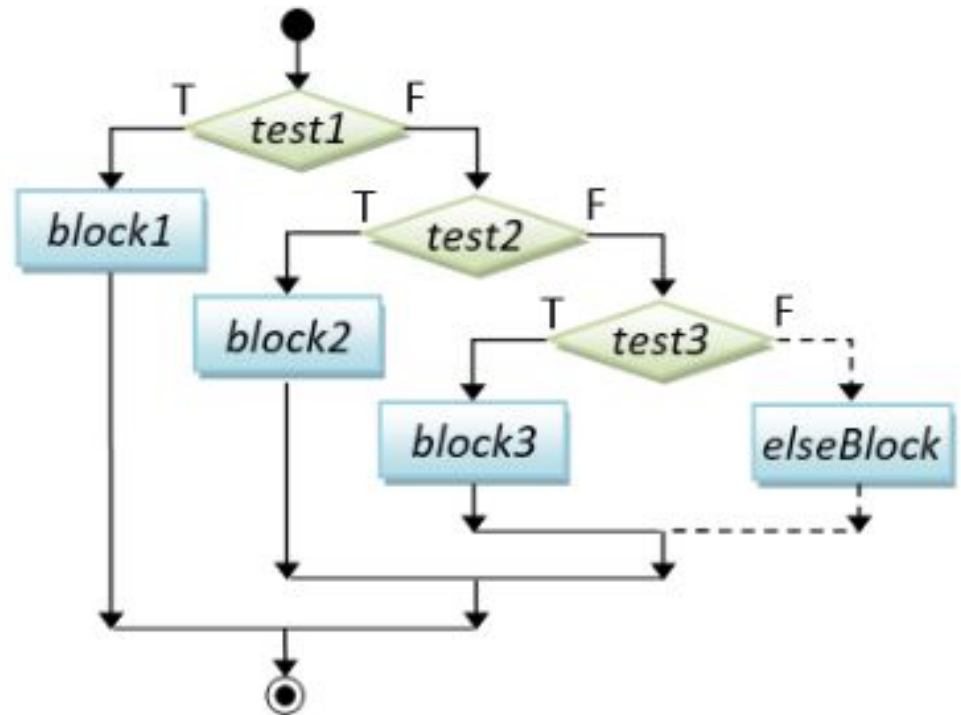
# if-then-else

```
// if-then-else
if ( booleanExpression ) {
    true-block ;
} else {
    false-block ;
}
```



# if-elseif-elseif-...-else

```
if ( booleanExpr-1 ) {  
    block-1 ;  
} else if ( booleanExpr-2 ) {  
    block-2 ;  
} else if ( booleanExpr-3 ) {  
    block-3 ;  
} else if ( booleanExpr-4 ) {  
    .....  
} else {  
    elseBlock ;  
}
```

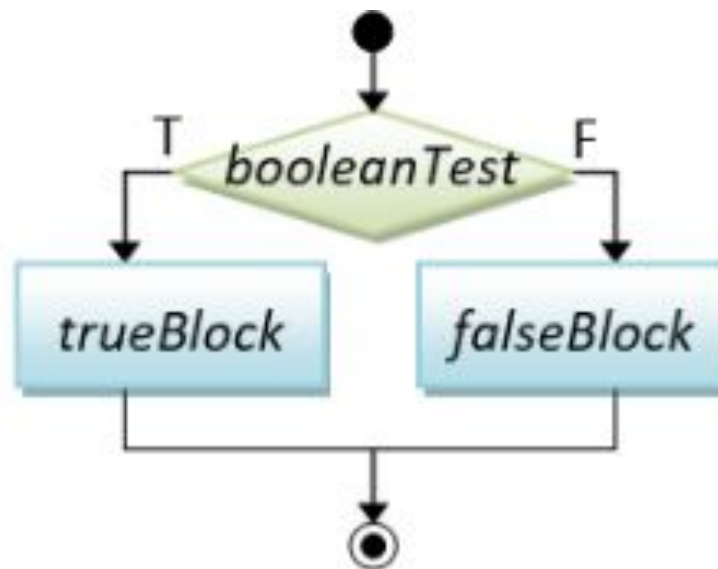




# Ternary Operator

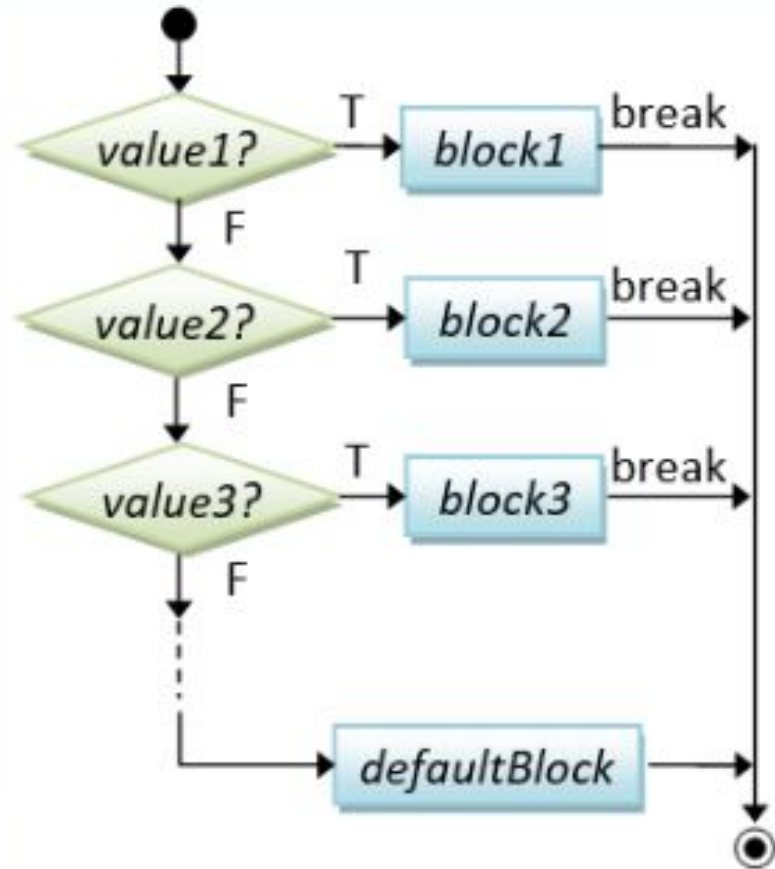
*booleanExpr ? trueExpr : falseExpr*

```
printf("%s\n", (mark >= 50) ? "PASS" : "FAIL");  
    // print either "PASS" or "FAIL"  
max = (a > b) ? a : b;    // RHS returns a or b  
abs = (a > 0) ? a : -a;   // RHS returns a or -a
```



# switch-case

```
// switch-case
switch ( selector ) {
  case value-1:
    block-1; break;
  case value-2:
    block-2; break;
  case value-3:
    block-3; break;
  .....
  case value-n:
    block-n; break;
  default:
    default-block;
}
```



# Tutorial - Simple Calculator

```
~/Session02-ConditionalStatements$ ./calc
WELCOME TO SIMPLE CALCULATOR
-----
Enter [number 1] [+ - * /] [number 2]
9 + 5
9.00 + 5.00 = 14.00
~/Session02-ConditionalStatements$ ./calc
WELCOME TO SIMPLE CALCULATOR
-----
Enter [number 1] [+ - * /] [number 2]
9 - 5
9.00 - 5.00 = 4.00
~/Session02-ConditionalStatements$ ./calc
WELCOME TO SIMPLE CALCULATOR
-----
Enter [number 1] [+ - * /] [number 2]
9 * 5
9.00 * 5.00 = 45.00
~/Session02-ConditionalStatements$ ./calc
WELCOME TO SIMPLE CALCULATOR
-----
Enter [number 1] [+ - * /] [number 2]
9 / 5
9.00 / 5.00 = 1.80
~/Session02-ConditionalStatements$
```

# Decisions

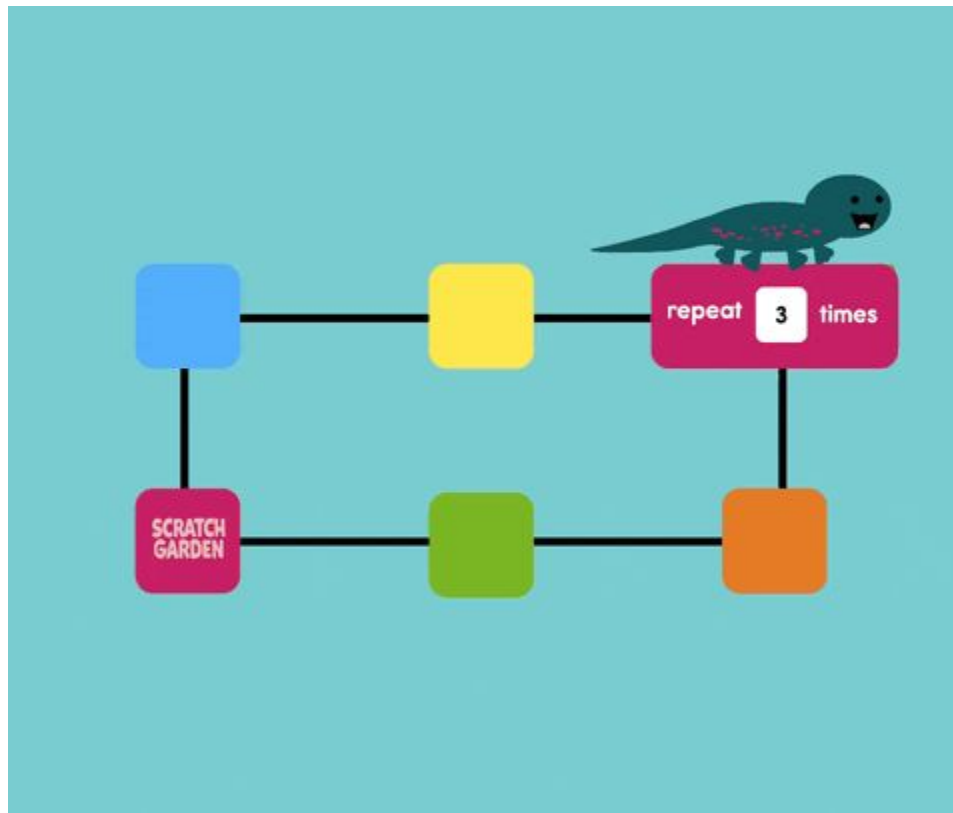
Write the code to build a simple calculator in C. Answer the following questions sequentially to build your application.

- What is the input and formatting?
- What is the output and formatting?
- Which of the known conditional constructs is the best? Why?
- Are there any edge cases that may break the code?

Always approach problem-solving and application development by asking questions like these!!!

# Next Session

LOOPING!!



Any Questions

