



C Switch

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Switch Statement

Instead of writing **many** `if..else` statements, you can use the `switch` statement.

The `switch` statement selects one of many code blocks to be executed:

Syntax

```
switch(expression) {  
  case x:  
    // code block  
    break;  
  case y:  
    // code block  
    break;  
  default:  
    // code block  
}
```

This is how it works:

- The `switch` expression is evaluated once

- The value of the expression is compared with the values of each **case**
- If there is a match, the associated block of code is executed
- The **break** statement breaks out of the switch block and stops the execution
- The **default** statement is optional, and specifies some code to run if there is no case match

The example below uses the weekday number to calculate the weekday name:

Example

```
int day = 4;

switch (day) {
    case 1:
        printf("Monday");
        break;
    case 2:
        printf("Tuesday");
        break;
    case 3:
        printf("Wednesday");
        break;
    case 4:
        printf("Thursday");
        break;
    case 5:
        printf("Friday");
        break;
    case 6:
        printf("Saturday");
        break;
    case 7:
        printf("Sunday");
        break;
}

// Outputs "Thursday" (day 4)
```

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The break Keyword

When C reaches a `break` keyword, it breaks out of the switch block.

This will stop the execution of more code and case testing inside the block.

When a match is found, and the job is done, it's time for a break. There is no need for more testing.

A break can save a lot of execution time because it "ignores" the execution of all the rest of the code in the switch block.

The default Keyword

The `default` keyword specifies some code to run if there is no case match:

Example

```
int day = 4;

switch (day) {
    case 6:
        printf("Today is Saturday");
        break;
    case 7:
        printf("Today is Sunday");
        break;
    default:
        printf("Looking forward to the Weekend");
}

// Outputs "Looking forward to the Weekend"
```

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Note: The default keyword must be used as the last statement in the switch, and it does not need a break.

C Exercises

Test Yourself With Exercises

Exercise:

Insert the missing parts to complete the following switch statement:

```
int day = 2;
switch (    ) {
    1:
    printf("Monday");
    ;
    2:
    printf("Sunday");
    ;
}
```

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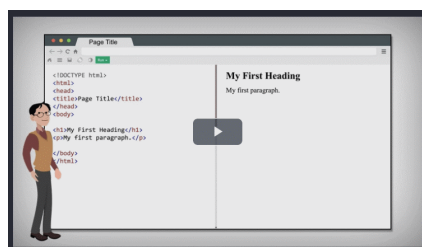
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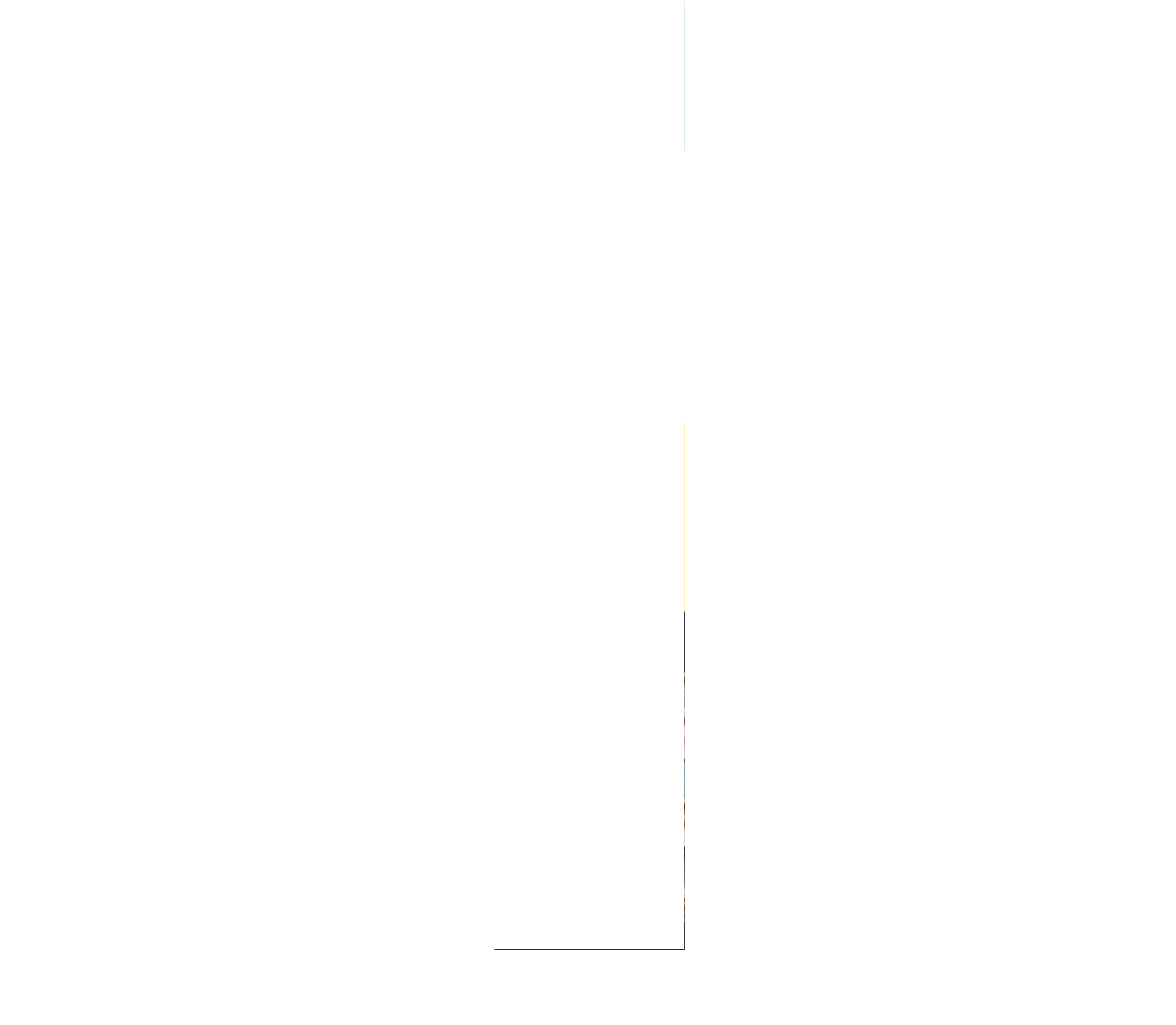
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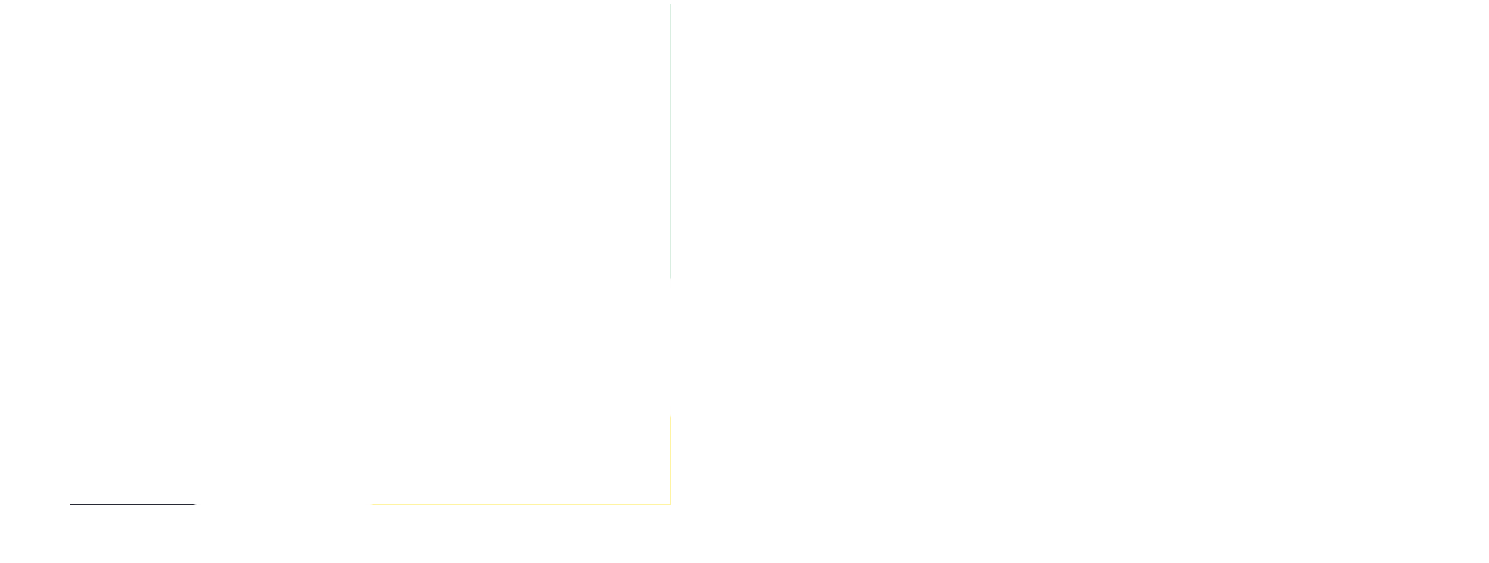
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