Computational Expression

Switch Statement

Software Development Activities

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Object-oriented Design
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Software Development

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- **Implementing** the design: process of writing the code (translating design into a programming language).
- **Testing**: ensuring that a program will solve the intended problem.
Identifying Classes and Objects

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- Decide if need to have supporting class(es), in addition to classes that represent objects.
- Assign responsibilities to each class (behaviors/methods of the class).
Control Structures

- Java programs are built from only these seven control structures:
  - three selection (if, if/else, switch)
  - three repetition (while, do/while, for)
- You implement computer algorithms by stringing sequences of these seven control structures together.
Selection

- if statement is a single-selection structure.
- if/else statement is a double-selection structure.
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Selection

- `if` statement is a single-selection structure.
- `if/else` statement is a double-selection structure.
- What if you have a series of integral values you would like to test and you might possibly want to trigger multiple actions based on one value?
- A switch statement can re-implement most `if` or `if/else` structures more compactly.
- You can execute more than just one action with a switch, as opposed to the way a nested `if/else` structure works.
char character ;
switch ( character ) {
    case 'a': // case labels
    case 'e': // separated by :
    case 'i': // character
    case 'o': // notice use of ‘ ’
    case 'u': // marks for char tests
        System.out.print (character+" is a lowercase vowel\n");
        break;
    default:
        System.out.print (character+" is not a lowercase vowel\n");
}
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- All statements after the matching case label are executed in sequence, regardless of the expression of subsequent case labels, until a break statement is encountered.
if and if/else can test ranges of numbers using relational (> , <, ≥ and ≤) and inequality (! =) operators.

switch statement can only make exact matches of values (==).

switch statement works with int, char, byte, short, String and some other special (enum) data types.

if and if/else can test other data types such as floating point numbers.

if and if/else can find one condition to be true and execute an action.

switch statements find one match and continue executing code until a break is found.
Switch Summary

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- **switch** statement can only make exact matches of values (===).
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Switch Summary

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