

HIGH-LEVEL PROGRAMMING I

switch Statement

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switch Statement (1 / 5)

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- C/C++ provide two selection structures
 - When implemented with either `if` or `if...else` statement, usually requires evaluation of logical expression

```
int year = 1;
if (1 == year) {
    printf("Freshman\n");
} else if (2 == year) {
    printf("Sophomore\n");
} else if (3 == year) {
    printf("Junior\n");
} else if (4 == year) {
    printf("Senior\n");
} else {
    printf("Who are you?\n");
}
```

switch Statement (2/5)

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- C/C++ provide two selection structures
 - ▣ When implemented with `if` or `if...else` statement, usually requires evaluation of logical expression
 - ▣ 2nd type doesn't require evaluation of logical expression and is called `switch` structure

switch Statement (3/5)

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```
switch (integral-expression) {  
    case integral-value-1:  
        statements-1  
        break;  
    case integral-value-2:  
        statements-2  
        break;  
    ...  
    case integral-value-n:  
        statements-n  
        break;  
    default:  
        statements  
}
```

Referred to as *label*

Value must be known at compile-time i.e., expression must not contain variables

Causes program execution to jump to statement after **switch** statement

default label corresponds to a value that doesn't match any of the other labels

switch Statement (4/5)

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```
int year = 1;
if (1 == year) {
    printf("Freshman\n");
} else if (2 == year) {
    printf("Sophomore\n");
} else if (3 == year) {
    printf("Junior\n");
} else if (4 == year) {
    printf("Senior\n");
} else {
    printf("Who are you?\n");
}
```

```
int year = 1;
switch (year) {
    case 1:
        printf("Freshman\n");
        break;
    case 2:
        printf("Sophomore\n");
        break;
    case 3:
        printf("Junior\n");
        break;
    case 4:
        printf("Senior\n");
        break;
    default:
        printf("Who are you?\n");
}
```

switch Statement (5/5)

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- What is text printed to standard output?

```
int level = 5;
printf("Spell list: ");
switch (level) {
    case 5:
        printf("Firestorm");
    case 4:
    case 3:
        printf("Fireball");
    case 2:
    case 1:
        printf("Firebolt");
}
```