

Selection II

Switch Structure



Review: Using If for Selection

```
c.print ("Enter your mark out of 10: ");  
int mark = c.readInt ();
```

```
if (mark == 10)  
{  
    c.println ("Perfect!");  
} //if
```

```
if (mark == 9 || mark == 8)  
{  
    c.println ("Pretty Good.");  
} //if
```

```
if (mark == 7 || mark == 6)  
{  
    c.println ("Okay.");  
} //if
```

```
if (mark ==5)  
{  
    c.println ("Squeaked By!");  
} //if
```

```
if (mark < 5 && mark >= 0)  
{  
    c.println ("Ouch! Did not pass.");  
} //if
```



Review: Selection Using If-Else

```
c.print ("Enter your mark out of 10: ");
int mark = c.readInt ();

if (mark == 10)
{
    c.println ("Perfect!");
} // if

else if (mark == 9 || mark == 8)
{
    c.println ("Pretty Good.");
} // else if

else if (mark == 7 || mark == 6)
{
    c.println ("Okay.");
} // else if

else if (mark == 5)
{
    c.println ("Squeaked By!");
} // else if

else if (mark < 5 && mark >= 0)
{
    c.println ("Ouch! Did not pass.");
} // else if

else
{
    c.println("Invalid. You did not enter an integer between 0 and 10.");
} // else
```



Switch: Integer Example

// Here is an example of a switch construct
that outputs a comment based on a
// student's mark out of 10

```
int mark = c.readInt ( );

switch      (mark)
{
    case 10:
                c.println ("Perfect.");
                break;

    case 9:
    case 8:
                c.println ("Pretty Good.");
                break;

    ca se 7:
    case 6:
                c.println ("Okay.");
                break;

    case 5:
                c.println ("Squeaked By!");
                break;

    default:
                c.println ("Did not pass.
Ouch!");
                break;
} // switch
```



Switch: Character Example

```
/*Here is another example using an
expression that evaluates an equality with
a character literal.*/
```

```
answer = c.readChar ( );
```

```
switch (answer)
{
```

```
    case 'a':
        c.println ("No. The United
States is the third largest country.");
        break;
```

```
    case 'b':
        c.print      ln ("No. Canada is the
second largest country.");
        break;
```

```
    case 'c':
        c.println ("Correct. Russia is
the largest country by size.");
        break;
```

```
    case 'd':
        c.println ("No. China is the
fourth largest country.");
        break;
```

```
    default:
        c.println ("Please r          un this
program again, entering a choice");
        c.println ("of a, b, c, or d");
```

```
} // switch
```



Switch Construct: Notes

- Only used when it is possible to make equality comparisons with either a single integer variable or a single character variable
Example: `mark==10`
- Not suitable for comparing ranges
Example: `mark > 8`



Switch: Java Syntax

```
switch ( identifier - expression)
{
    case value1:
        // ...statements to be executed
        break ;
    case value2:
        // ...statements to be executed
        break ;
    case value3:
    case value4:
    case value5:
        // ...statements to be executed...
        break ;

    default :
        // ...statement s if no match...
        break ;
} // switch
```

