

## An Example

- Given an integer  $i$ , write a piece of code that outputs “even” or “odd” depending on whether the value of  $i$  is even or odd.

```
if ((i % 2) == 0) // i is even
{
    System.out.println("even");
}
else // i is odd
{
    System.out.println("odd");
}
```

## Another Example

- Given two integers  $i$  and  $j$ , write a piece of code that sets integer variable  $max$  to the value of the larger of the two.

```
if (i > j)
{
    max = i;
}
else // i <= j
{
    max = j;
}

if (j > max)
{
    max = j;
}
```

## Your Turn

- Given three integers  $i$ ,  $j$ , and  $k$ , write a piece of code that sets integer variable  $max$  to the value of the largest of the three.

## Max Of Three

```
if (i > j)
{
    if (i > k) // i is max
    {
        max = i;
    }
    else // k is max
    {
        max = k;
    }
}
else // i <= j
{
    if (j > k) // j is max
    {
        max = j;
    }
    else // k is max
    {
        max = k;
    }
}
}
```

```
max = i;
if (j > max)
{
    max = j;
}
if (k > max)
{
    max = k;
}
```

## Your Turn, Again

- Given an integer, *grade*, holding a grade between 0 and 100, write a piece of code that converts the numeric value to a letter grade according to the following table and prints the letter grade.

$grade \geq 90$	A
$80 \leq grade < 90$	B
$70 \leq grade < 80$	C
$60 \leq grade < 70$	D
$grade < 60$	E

## Grade Conversion

```
char letterGrade;
if (grade >= 90) // 90 <= grade
{
    letterGrade = 'A';
}
else if (grade >= 80) // 80 <= grade < 90
{
    letterGrade = 'B';
}
else if (grade >= 70) // 70 <= grade < 80
{
    letterGrade = 'C';
}
else if (grade >= 60) // 60 <= grade < 70
{
    letterGrade = 'D';
}
else // grade < 60
{
    letterGrade = 'E';
}
System.out.println(letterGrade);
```

## Your Turn, One More Time

- Given a String, *s*, which is meant to hold a date in the **mm/dd/yyyy** format, check that it is in the correct format and print an error message if it is not.
- **boolean** `Character.isDigit(char ch)` allows you to check if a given character, *ch*, is a digit ('0', '1', '2', '3', '4', '5', '6', '7', '8', '9') or not.

## Check Date Format

```
if ((s.length() != 10) ||
    !(Character.isDigit(s.charAt(0)) &&
      Character.isDigit(s.charAt(1)) &&
      (s.charAt(2) == '/') &&
      Character.isDigit(s.charAt(3)) &&
      Character.isDigit(s.charAt(4)) &&
      (s.charAt(5) == '/') &&
      Character.isDigit(s.charAt(6)) &&
      Character.isDigit(s.charAt(7)) &&
      Character.isDigit(s.charAt(8)) &&
      Character.isDigit(s.charAt(9))))
{
    System.out.println(
        s + " is not in the correct format");
}
```