

Static, Main, and Exceptions

Main method

```
public static void main(String[] args)
```

java

- `public` means this method is accessible to other classes in the program.
- `void` means this method does not return anything.
- `main` is the name given to this method.
- `String[] args` means that this method takes in an array of Strings called `args`.

Static

- will not change
- used to define common property of the entire class
- non static objects cannot be referenced in a static method

```
private static int diameter = 15;  
return this.color + " ball with diameter " + Ball.diameter; // className.static;
```

java

Errors:

Compile time - syntax errors

Run time errors (exceptions) - bad params, etc

Throwing Exceptions

- `IllegalArgumentException` is a child class of `Exception`

```
public double div(double num, double denom)  
    throws Exception  
{  
    if (denom == 0.0)  
    {  
        throw new Exception("Tried to divide by 0!"); // we did this in case denom is 0  
    }  
  
    return num / denom;  
}
```

java

Catching Exceptions

```
// trying to execute statements that result in an exception  
try  
{  
    quotient = div(numerator, denominator);  
}
```

java

```
// handle errors caught
catch (IllegalArgumentException err)
{
    quotient = div(numerator, 2.0);
}
catch (DifferentExceptionClassName otherParameterName)
{
    // block of statements to be executed if DifferentExceptionClassName is thrown
}
finally // always run
{
    // optional block of statements that is executed
    // whether or not an exception is thrown
    // this code is always run
}
```