 

**Advanced Placement Computer Science**

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**Unit 4: Object Oriented Programming**

**Lesson: Advanced Features Ver 3.0**

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Lesson: Parameter Passing Mechanisms

*Last Updated: 100/11001/1100*

In addition to writing classes using private variables and public accessors and mutators, here are 3 common features that are built into classes.

1. Exception Handling: A way of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
     
   In your class, add the statement throws with a type of Exception  
     
   In your client, add a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Here are some typical exceptions widely used in java https://www.tutorialspoint.com/java/java\_builtin\_exceptions.htm

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| **Unchecked Runtime Exceptions** | |
| **ArithmeticException** | Arithmetic error, such as divide-by-zero. |
| **ArrayIndexOutOfBoundsException** | Array index is out-of-bounds. |
| **ClassCastException** | Invalid cast |
| **IllegalArgumentException** | Illegal argument used to invoke a method. |
| **IndexOutOfBoundsException** | Some type of index is out-of-bounds. |
| **NullPointerException** | Invalid use of a null reference. |
| **StringIndexOutOfBounds** | Attempt to index outside the bounds of a string. |
| **NumberFormatException** | Invalid conversion of a string to a numeric format. |
| **Checked Runtime Exceptions** | |
| **IOException** | Occurs when attempting to open a text or binary file for reading or writing |

Unchecked Exceptions:

Checked Exceptions:

1. static or class variables:
2. public String toString()