AP Computer Science A  
Final Exam Study Guide

Preparing for the final exam? Do you remember how the **modulus** operator works? How about **compareTo()?** Look over this reference. Revisit examples. Be sure to work through **IMACS Be Prepared**. Most important, if you have questions, jot them down and then contact your instructor!!

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| **Topics** | **Lesson** |
| Arithmetic   * int * double * casting * modulus (%) (int only) * division | 2.06  2.07 |
| String methods  substring (one and two parameters)  indexOf()  compareTo()  == vs .equals() | 3.05, 3.07, 3.09  Mod 17 & 18 |
| Boolean Expressions   * DeMorgan’s Law * Logical Operators   -&& and ||   * Relational operators   -primitive data types only  - < > <= => != == | Module 4  IMACS Be Prepared |
| Math.random() | Mod 5 |
| array  can contain primitive and Objects  -index range  -length | Mod 6 & 16 |
| ArrayList  can only contain Objects   * .add() * .get() * .size() * .set() * .remove()   \*\*Remember when an element is removed, the index of the others shifts!! | 8.10  8.11  Mod 16 |
| States:   * public * private * static * final * abstract | Mod 8, 14, 15 |
| Vocabulary:  define, properties, compare/contrast:   * polymorphism * overriding * overloading * inheritance * abstract * interface | Mod 8, 13, 14, 15 |
| .this prefix | Mod 14 |
| Sorts & Searches  characteristics, strengths, min/max compares  Sorts:   * merge * selection * insertion   Searches   * sequential * binary | Mod 17 and 18 |
| GridWorld  properties, characteristics of classes, methods to override   * Actor * Bug * Critter * Location   \*\*\* Remember to USE an PRACTICE with the Quick Reference Guide! | See Mod 11 for start and link to College Board |
| Trace Code   * if-else-if * for * while * recursion   Detecting errors   * Off by one * Short Circuit | IMACS Be Prepared |
| Exceptions   * null pointer exception * index out of bounds exception * array index out of bounds exception * class cast exception * arithmetic exception | Mod 19 |