**AP Exam Review Programs**

**Program # 1 - RecursivePower**

Write a program that utilizes a recursive method to raise an integer to a specific power

The signature of this method must be:

**double** power(**int** base, **int** n){

**Program # 2 - ShortHand**

Write a program that receives a String from the user and returns the String converted into shorthand. The simplified shorthand form of a string is defined as follows:

1. replace these four words: "and" with "&", "to" with "2", "you" with "U", and "for" with "4".
2. remove all vowels ('a', 'e', 'i', 'o', 'u', whether lowercase or uppercase)

Example: Pam and I spoke to your teacher for the fourth time today.

becomes: Pm & spk 2 Ur tchr 4 th frth tm 2dy

**Program # 3 - LicensePlate**

The following sequence of steps will be used to convert a license plate into a car rental code.

* 1. A license plate consists of 3 letters followed by a 3 digit integer value.
  2. Type in the license plate information as 3 characters followed by a single integer value. For example, CPR607.
  3. Add up the ASCII values of the 3 letters, 67 + 80 + 82 = 229.
  4. Add the sum of the letters to the single integer value. For example, 229 + 607 = 836.
  5. Take this sum (836) and determine the integer remainder after dividing by 26:   
     836 % 26 = 4.
  6. Determine the 4th letter in the alphabet after the letter 'A': 4th letter after 'A' = E.
  7. Combine the letter and the sum, the car id number for license plate   
     CPR 607 = E836.