**1. PROBLEM STATEMENT**

As a train moves over railroad tracks on a level curve it exerts two forces; a downward force and a horizontal force. When designing tracks, both of these forces must be considered. The horizontal force (centrifugal force) is a function of the weight of the train, its speed, and the radius of the curve. The centrifugal force (in pounds) is computed by the equation

where gravity is 32 ft/s/s, weight is in tons, speed is in miles per hour, and radius is in feet. Write a C program to compute the corresponding horizontal force generated, and print the results to the computer screen.

**2. INPUT/OUTPUT DESCRIPTION**

Input: weight in tons

speed in miles per hour

radius in feet

Output: force in pounds

**3. HAND CALCULATION**

force = ((150\*2000)/32)\*(((65.2\*1.4667)\*(65.2\*1.4667))/2640)

= 9375\*3.463967818

= 32474.69829 pounds

**4. DEVELOP ALGORITHM (PROGRAM)**

**5. TEST PROGRAM**