CS133 - Winter 2003 - Quiz 1

Name:

SSN (4 last digits):

You have to answer all 3 problems. Each is worth 33%. Good luck!
Only students that are registered for CS133 can take this exam.

1. What is the minimum number of ears that a simple polygon of n vertices can have?

   What is the maximum number of ears?

   Give examples for $n = 6$.

2. Give an algorithm that checks if a polygon of n vertices is convex and simple. Describe the algorithm in detail.

   What is the running time of your algorithm? Prove it.

3. How many triangles does a triangulation of a simple polygon with n vertices have?

   Show that the sum of the interior angles of a simple polygon of a simple polygon with n vertices is $(n-2)\pi$.

   What is the sum of the external angles?