CSCE 330 Fall 2006

Homework 6

Assigned Thursday, 06-10-05

Give a loop invariant for this program fragment :

```
read(n);
fact := 1;
i := 1;
while (i <= n) do
  fact := fact * i;
  i := i+1;
od
write(fact)
```

with precondition $n \geq 1$ and postcondition $fact = n!$.

Show that the loop invariant (1) is implied by the precondition, (2) implies the postcondition, and (3) is invariant with respect to execution of the loop body.