CSCE 330 Fall 2005

QUIZ 11

Assigned Wednesday, 05-09-28

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 $fact = n!$.

Answer: $fact = \Pi_{j=1}^{i-1} j \wedge i \leq n + 1$