CSCE 330 Fall 2006

QUIZ 8

Assigned Tuesday, 06-10-10

Give a loop invariant for this program fragment :

```
x := 2;
i := 1;
while (i <= n) do
  begin
    x := x*x;
    i := i+1
  end
```

with precondition $n \geq 1$ and postcondition $x = 2^{2^n}$.

Answer: $x = 2^{2^{i-1}} \wedge i \leq n + 1$.