$2 * b + a > 1$

$n > (1 - a) / 2$

28. Prove: $\{n > 0\}$

```
count = n;
sum = 0;
while count <> 0 do
    sum = sum + count;
    count = count - 1;
end
```

$\{sum = 1 + 2 + \ldots + n\}$

Proof: $I = (sum = (count+1) + (count+2) + \ldots + (n-1) + n$

i) If $I = P$, then clearly $P \Rightarrow I$ ✓

ii) $\{I \text{ AND } B\}\ S\ \{I\}$

$\{I \text{ and } B\} = (sum = (count+1) + (count+2) + \ldots + (n-1) + n) \text{ AND } (count >$

$= (sum = (count+1) + (count+2) + \ldots + (n-1) + n) \text{ AND } (count > 0$

I: $sum = (count+1) + (count+2) + \ldots + (n-1) + n$ AND co

S: $count = count - 1$

then P: $sum = count + (count+1) + \ldots + n$ AND $count > 1$

P: sum = count + count + 1 + ... + n AND count > 1

S: sum = sum + count

then ~~sum~~ $\cancel{count}$ + count + 1 + ... + n = sum + $\cancel{count}$

$\therefore$ sum = count + 1 + ... + n

$\therefore$ P = (sum = count + 1 + ... + n) AND (count > ϕ)

since I and B => P

we have {I and B} S {I} ✓

iii) show I and not B => Q

sum = $\cancel{sum}$ count + 1 + count + 2 + ... + n and count > 0 and count = 0

=> sum = 1 + 2 + ... + n = Q ✓

continuing the proof

P: sum = count + 1 + count + 2 + ... + n and count > 0

S: sum = 0

$\therefore$ 0 = count + 1 + count + 2 + ... + n and count > 0

now 0 = count + 1 + count + 2 + ... + n and count > 0

S: count = n

$\therefore$ 0 = n + 1 + n + 2 + ... + n and n > 0

0 = 0 and n > 0

{n > 0}

QED