Hoare triples exercises

```
6 Settembre 2018
 {N,0}c{x=3(N-1)}
                                           N = 4
                                           x=0 3 6 9
 x:=0; i:=1; C1
                                           i=1234
while i < N do )
C X:=3+X W i:=i+1
                                          Inv: x=3 (1-1) 1 ( N
 endwhile
(A) {P} C1 {Inv}
   + (ass.) { 0 = 3 (1-1) , 1 < N} C1 { Inv}
                              (a > b \leftrightarrow a > b-1)
 (calcolo) = { N≥1} C1 { lnv}
          = {N70} G {Inu}
 (B) \{lnv \land \tau E\} \lor \{Q\} \quad (lnv \land \tau E \rightarrow Q)
     X = 3/(i-1) n \in \mathbb{N} n \in \mathbb{N}
     = x=3(i-1) n i=N
     = x = 3(N-1)
 (c) {Inv A E } C {Inv}
     + (ass.) { 3+x = 3(i+1-1) ~ i+1 < N } W { Inv}
             = fx = 3(i)-3 A i ≤ N-1} W { Inu}
             = \{ x = 3(i-1) \ n \ i < N \} \ W \ \{ | nv \}  (a<br/> (a<br/> \Leftrightarrow \alpha \le b-1)
 (D) Inv -> t > 0
    x=3(i-1) x i & N)
  → i=N (anb → a)
= N>i = N-i >0 = t > 0
 (E) flow A Ex t=V} W { t < V}
     + (ass.) { N-i-1 < V } W { t < V }
             IN-i = v 3 W {t < V}, INVAEA t=V
                                           Inv n En N-i = V -> N-i = V
    + (pre) {Inu n E n t = V} W {t < V}
```

From https://github.com/avivace/compsci . Projects, documentation and various resources on the courses I attended at Università degli Studi di Milano Bicocca for my Bachelor's and Master's degrees in Computer Science