5.

For loop

JAVA For( expr1;expr2;expr3){

Ls}

Mforloop(for (E1;E2;E3){Ls},s)=

if E1 is not empty

If MExpr(E1,s) ==error return error

if E2 is not empty

If MBoolExpr(E2,s) ==error return error

else if MBoolExpr(E2,s) == false return s

else if MStatementList(Ls,s) == error return error

else if E3 is not empty

If MExpr(E3,s) ==error return error

Mforloop(for (E1;E2;E3){Ls},MstatementList(Ls;E3))

Ls= statement list

3.\*\*\*\*\*

P = { power =1; i=1;} precondition

B = {I <=n}

Q ={ power = x^n} Post condition

S=[

Power = power \*x;

i = i+1;

]

I=? { 0<=n}

N is not affected

{ 0<= n} and { i <= n}

Power = power \*x;

i = i+1;

{ 0<= n}

{ 0<= n} and !{ i <= n} => { power x^n}

{0<=N and I > n} 🡺 power = x^n

0<=n < I && i>=1

N=0 🡺power =x^n = 0

Power =1

3번 문제 operational semantic 방법으로

Mov 1 , power (move 1 into power)

Mov 1 , i

Loop:

If I > n goto done:

Mult power, x, power

Add i, 1, i

Goto loop

Done: