Exercise 1

1. State variable: B
2. Control variable: B’
3. B’= B-S
4. V(B)=MAXB’ P0\*(B-B’) + (1/1+r)\*[V(B’)]
5. P0(B-B’) = (1/1+r)[V’(B’)]
6. If pt+1 =pt , the solution will be B’=0. If pt+1>(1+r)\*pt, the solution will be B=B’. Necessary condition for interior solution: pt+1=(1+r)pt for all t.