1.

S -> aS | BA

New nonterminal X

S-> aSX | BAX

X-> aX | BaX|empty

A -> aa | bA

B-> b

New nonterminal Y

B->bY

Y->-> bY | aY|empty

The grammar after removing left recursion

S-> aSX | BAX

X-> aX | BaX|empty

A -> aa | bA

B->bY

Y-> bY | aY|empty

2.

S -> abCS | abC | AC

S->abC(S|empty)|AC

S-> abCX|AC

X->S|empty

A -> bA|bc

A->b(A|c)

A->bY

Y->A|c

C -> cC | D  
D -> dd

After left factorization

S-> abCX|AC First(S)= {a,First(A)} = {a,b} k=1

X-> S|empty First (X)={First(S), empty} = {a,b,empty} , k=1

A -> bY First (A) ={ b} k=0

Y->A|c First(Y) = {First(A),c}={b,c} k=1

C -> cC | D First(C)= {c, First(D)} = {c,d} k=1

D -> dd First(D) = d k=0