Time Complexity

**1.**

for(int k=1;k<=n;k=k\*2)

{

for(int i=1;i<=n;i++)

{

cout<<k<<" "<<i<<"\n";

}

}

Time Complexity:

assume that n=9

hLb k=1 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e n evi

hLb k=2 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e n evi

hLb k=4 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e n evi

hLb k=8 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e n evi

hLb k=16 ZLb evB‡ii †jvcwU Pj‡e 0 evi wfZ‡ii †jvcwU Pj‡e 0 evi

evB‡ii †jvcwU †gvU Pj‡e (1+1+1+1)= 4 evi

GLv‡b evB‡ii †jvcwU k Gi gv‡bi Dci wbf©ikxj ... hv 2 Gi cvIqvi.. hv logn ..

†jvcwU †gvU Pj‡e **n\*logn** evi

**2.**

for(int k=1;k<=n;k++)

{

if(k==1){

for(int i=1;i<=n;i++)

{

cout<<k<<" "<<i<<"\n";

}

}

}

Time Complexity:

assume that n=9

hLb k=1 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e n evi

hLb k=2 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

hLb k=3 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

hLb k=4 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

hLb k=5 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

hLb k=6 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

hLb k=7 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

hLb k=8 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

hLb k=9 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

evB‡ii †jvcwU †gvU Pj‡e n evi

wfZ‡ii †jvcwU ïay k=1 Gi R‡b¨ Pj‡e.. A\_v©r ïay GKevi Pj‡e ïay... ZvB BM‡bvi Kiv n‡q‡Q..

†jvcwU †gvU Pj‡e O**(n)** evi

**3.**

for(int k=1;k<=n;k++)

{

if(k%2==0){

for(int i=1;i<=n;i++)

{

cout<<k<<" "<<i<<"\n";

}

}

}

Time Complexity:

assume that n=9

hLb k=1 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

hLb k=2 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 1 evi

hLb k=3 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

hLb k=4 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 1 evi

hLb k=5 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

hLb k=6 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 1 evi

hLb k=7 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

hLb k=8 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 1 evi

hLb k=9 ZLb evB‡ii †jvcwU Pj‡e 1 evi wfZ‡ii †jvcwU Pj‡e 0 evi

evB‡ii †jvcwU †gvU Pj‡e n evi

wfZ‡ii †jvcwU †gvU Pj‡e n/2 evi

†jvcwU †gvU Pj‡e O**(n2)** evi

O(n^2)