**[这就是树状dp..好难啊..](http://www.cppblog.com/qywyh/archive/2007/02/10/18619.html)**

pku 2486 apple tree  
解法：  
//Apple Tree  
//数组二维go，bk  
//go[t][i]代表节点t的所有子树上走i步不返回,取得的最大苹果数  
//bk[t][i]代表节点t的所有子树上走i步并返回,取得的最大苹果数  
//求节点为x，实行不断合并子树求最优值  
//当前合并到了q棵子树：  
//go[x][i]就是这q棵子树上走i步不返回的最优值  
//bk[x][i]就是这q棵子树上走i步并返回的最优值  
//合并第q+1棵子树(不妨设第q+1棵子树的根为y)的时候，有  
//go[x][i] = max( bk[x][j]+go[y][i-j], bk[y][j]+go[x][i-j] ), j=0.....i  
//bk[x][i] = max( bk[x][j]+bk[y][i-j] ) j=0,.....i;  
////////////////////////////////////////////////////////////////////////////

#include  < iostream >   
http://www.cppblog.com/Images/OutliningIndicators/None.gifusing namespace std;  
http://www.cppblog.com/Images/OutliningIndicators/None.gif  
http://www.cppblog.com/Images/OutliningIndicators/None.gifconst   int  N  =   210 ;  
http://www.cppblog.com/Images/OutliningIndicators/None.gif  
http://www.cppblog.com/Images/OutliningIndicators/None.gifint  adj[N][N];  
http://www.cppblog.com/Images/OutliningIndicators/None.gifint  n, k;  
http://www.cppblog.com/Images/OutliningIndicators/None.gifint  w[N];  
http://www.cppblog.com/Images/OutliningIndicators/None.gifint  go[N][N], bk[N][N];  
http://www.cppblog.com/Images/OutliningIndicators/None.gif  
http://www.cppblog.com/Images/OutliningIndicators/None.gifvoid  solve();  
http://www.cppblog.com/Images/OutliningIndicators/None.gifvoid  dfs( int ,  int );  
http://www.cppblog.com/Images/OutliningIndicators/None.gifvoid  dp( int ,  int );  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedBlock.gifinline  int  max( int  a,  int  b)  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif     return  a  >  b  ?  a : b;  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedBlockEnd.gif}   
http://www.cppblog.com/Images/OutliningIndicators/None.gif  
http://www.cppblog.com/Images/OutliningIndicators/None.gifint  main()  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedBlock.gifhttp://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedSubBlock.gif     while  (scanf( " %d%d " ,  & n,  & k)  !=  EOF)  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        solve();  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockEnd.gif    }   
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif     return   0 ;  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedBlockEnd.gif}   
http://www.cppblog.com/Images/OutliningIndicators/None.gif  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedBlock.gifvoid  solve()  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif     int  i, j, l;  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif     int  x, y;  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedSubBlock.gif     for  (i = 1 ; i <= n; i ++ )  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        scanf( " %d " ,  & w[i]);  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        adj[i][ 0 ]  =   0 ;  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockEnd.gif    }   
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedSubBlock.gif     for  (i = 0 ; i < n - 1 ; i ++ )  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        scanf( " %d%d " ,  & x,  & y);  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        adj[x][ ++ adj[x][ 0 ]]  =  y;  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        adj[y][ ++ adj[y][ 0 ]]  =  x;  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockEnd.gif    }   
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif      
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif    memset(go,  0 , sizeof(go));  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif    memset(bk,  0 , sizeof(bk));  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif    dfs( 1 ,  0 );  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif     int  ans  =  max(go[ 1 ][k], bk[ 1 ][k]);  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif    printf( " %d\n " , ans  +  w[ 1 ]);  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedBlockEnd.gif}   
http://www.cppblog.com/Images/OutliningIndicators/None.gif  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedBlock.gifvoid  dfs( int  p,  int  pp)  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif     int  i, j, l;  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif     int  ts;      
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedSubBlock.gif     for  (i = 1 ; i <= adj[p][ 0 ]; i ++ )  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        ts  =  adj[p][i];  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif         if  (ts  ==  pp)  continue ;  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        dfs(ts, p);  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        bk[ts][ 0 ]  =   0 ;  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        bk[ts][ 1 ]  =   0 ;  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        go[ts][ 0 ]  =   0 ;  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif         for  (l = k; l >= 2 ; l -- ) bk[ts][l]  =  bk[ts][l - 2 ]  +  w[ts];  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif         for  (l = k; l >= 1 ; l -- ) go[ts][l]  =  go[ts][l - 1 ]  +  w[ts];  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        dp(p, ts);  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockEnd.gif    }   
http://www.cppblog.com/Images/OutliningIndicators/ExpandedBlockEnd.gif}   
http://www.cppblog.com/Images/OutliningIndicators/None.gif  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedBlock.gifvoid  dp( int  x,  int  y)  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif     int  i, j, l;  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif     int  t1[N], t2[N];  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif    memset(t1,  0 , sizeof(t1));  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif    memset(t2,  0 , sizeof(t2));  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedSubBlock.gif     for  (i = 0 ; i <= k; i ++ )  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedSubBlock.gif         for  (j = 0 ; j <= i; j ++ )  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif            t1[i]  =  max(t1[i], max(bk[x][j] + go[y][i - j], bk[y][j] + go[x][i - j]));  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockEnd.gif        }   
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockEnd.gif    }   
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedSubBlock.gif     for  (i = 0 ; i <= k; i ++ )  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedSubBlock.gif         for  (j = 0 ; j <= i; j ++ )  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif            t2[i]  =  max(t2[i], bk[x][j] + bk[y][i - j]);  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockEnd.gif        }   
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockEnd.gif    }   
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockStart.gifhttp://www.cppblog.com/Images/OutliningIndicators/ContractedSubBlock.gif     for (i = 0 ; i <= k; i ++ )  http://www.cppblog.com/Images/dot.gif{  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        bk[x][i]  =  t2[i];  
http://www.cppblog.com/Images/OutliningIndicators/InBlock.gif        go[x][i]  =  t1[i];  
http://www.cppblog.com/Images/OutliningIndicators/ExpandedSubBlockEnd.gif    }   
http://www.cppblog.com/Images/OutliningIndicators/ExpandedBlockEnd.gif}