/\*

由题意可知，若要加边后危险道路最少，则加边后所形成的环应该最大，因此本题为求树的直径

\*/

#include<bits/stdc++.h>

using namespace std;

int head[100001];

int next[100001];

int to[100001];

int deep[100001];

int n;

int cnt;

void add\_edge(int a,int b)

{

++cnt;

next[cnt]=head[a];

head[a]=cnt;

to[cnt]=b;

++cnt;

next[cnt]=head[b];

head[b]=cnt;

to[cnt]=a;

}

int dfs(int u,int fa)

{

int maxv=u;

for(int i=head[u];i;i=next[i])

{

int v=to[i];

if(v==fa)continue;

deep[v]=deep[u]+1;

int x=dfs(v,u);

if(deep[maxv]<deep[x])maxv=x;

}

return maxv;

}

int main()

{

freopen("batman.in","r",stdin);

freopen("batman.ans","w",stdout);

int T;

cin>>T;

while(T--)

{

cin>>n;

int a,b;

cnt=0;

memset(head,0,sizeof(head));

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

{

cin>>a>>b;

add\_edge(a,b);

}

memset(deep,0,sizeof(deep));

deep[1]=1;

int u=dfs(1,0);

memset(deep,0,sizeof(deep));

deep[u]=1;

u=dfs(u,0);

cout<<n-deep[u]<<endl;

}

}