#include **<iostream>  
  
using namespace** std;  
**const int** N=105;  
**const int** MaxValue=**INT32\_MAX**;*//adad bezaram behtareh***int** d1[N][N];  
**int** pp[N][N];  
**void** gnarateP() {  
 **for** (**int** i = 1; i <= N; i++) {  
 **for** (**int** j = 1; j <= N; j++) {  
 **if** (d1[i][j] != 0 && d1[i][j] != MaxValue) {  
 pp[i][j] = i;  
 } **else** {  
 pp[i][j] = -1;  
 }  
 }  
 }  
}  
  
**void** floydWarshall() {  
 gnarateP();  
 **for** (**int** k = 1; k <=N; k++) {  
 **for** (**int** i = 1; i <= N; i++) {  
 **for** (**int** j = 1; j <= N; j++) {  
 **if** (d1[i][k] == MaxValue || d1[k][j] == MaxValue) {  
 **continue**;  
 }  
  
 **if** (d1[i][j] > d1[i][k] + d1[k][j]) {  
 d1[i][j] = d1[i][k] + d1[k][j];  
 pp[i][j] = k;  
 }  
  
 }  
 }  
 }  
  
}  
  
**void** writeDis(**int** s,**int** t){  
 **if**(pp[s][t]==-1){  
 cout<<**"Impossible"**<<endl;  
 **return**;  
 }  
 **if**(pp[s][t]==s){  
 cout<<s<<**" "**;  
 **return** ;  
 }  
  
 writeDis(s,pp[s][t]);  
 writeDis(pp[s][t],t);  
}  
**void** genareteD(){  
 **for**(**int** i=0;i<=N;i++){  
 **for**(**int** j=0;j<=N;j++){  
 **if**(i!=j) {  
 d1[i][j] = MaxValue;  
 }**else**{  
 d1[i][j]=0;  
 }  
 }  
 }  
}  
**int** main(){  
 **int** T;cin>>T;  
 **for**(**int** i=0;i<T;i++) {  
 **int** n;cin>>n;  
 **int** m;cin>>m;  
 genareteD();  
 **for**(**int** j=0;j<m;j++) {  
 **int** u,v,w;  
 cin >> u>>v>>w;  
 d1[u][v]=min(w,d1[u][v]);  
 d1[v][u]=min(w,d1[v][u]);  
 }  
 floydWarshall();  
 */\*  
 writeDis(1,n);  
 cout<<n<<endl;  
 \*/* cout<<**"Case "**<<i+1<<**": "**;  
 **int** res=min(d1[1][n],d1[n][1]);  
 **if**(res==MaxValue){  
 cout<<**"Impossible"**<<endl;  
 }**else**{  
 cout<<res<<endl;  
 }  
 }  
 **return** 0;  
}