DEV JATINBHAI PATEL

CE091

20CEUOS018

LAB 4

BATCH:A4

```cpp
#include <bits/stdc++.h>
using namespace std;
int main()
{
    set<int> VERTICES{1, 2, 3, 4, 5, 6, 7};

    set<pair<int, pair<int, int>>> EDGES{
        make_pair(10, make_pair(1, 6)),
        make_pair(12, make_pair(3, 4)),
        make_pair(14, make_pair(2, 7)),
        make_pair(16, make_pair(2, 3)),
        make_pair(18, make_pair(4, 7)),
        make_pair(22, make_pair(4, 5)),
        make_pair(24, make_pair(5, 7)),
        make_pair(25, make_pair(5, 6)),
        make_pair(28, make_pair(1, 2))};
    set<pair<int, pair<int, int>>> solution;
    set<int> solnVertex;
    int check[] = {0, 1, 2, 3, 4, 5, 6};
    int totalCost = 0;
    for (auto i : EDGES)
    {

        int V1 = i.second.first;
        int V2 = i.second.second;

        bool notPossible = false;
```

```
    if (check[V1 - 1] != check[V2 - 1])
            {
                int tempCheck = check[V1 - 1];
                check[V1 - 1] = max(check[V1 - 1], check[V2 - 1]);
                for (int i = 0; i < 7; i++)
                {
                    if (check[i] == tempCheck)
                    {
                        check[i] = check[V1 - 1];
                    }
                }
                tempCheck = check[V2 - 1];
                check[V2 - 1] = max(check[V1 - 1], check[V2 - 1]);
                for (int i = 0; i < 7; i++)
                {
                    if (check[i] == tempCheck)
                    {
                        check[i] = check[V2 - 1];
                    }
                }
            }
            else
            {
                notPossible = true;
            }

            if (!notPossible)
            {
                solution.insert(i);
                solnVertex.insert(max(V2, V1));
                totalCost += i.first;
            }
        }
        cout << totalCost << "\n";
    }
```

```
PS C:\Users\User\Desktop\pps\.vscode> cd "c:\Users\User\Desktop\pps\.vscode\" ; if ($?) { g++ delete
1 }
totalcost: 99
PS C:\Users\User\Desktop\pps\.vscode>
```