

## GRAPH COLORING PROBLEM

Algorithm NextValue(k)

```
{
    while(true)
    {
        x[k] := (x[k] + 1) mod (m + 1);
        if(x[k] = 0) then return;
        for j := 1 to n do
        {
            if((G[k, j] != 0) and (x[k] = x[j])) then
                break;
        }
        if(j = n+1) then return;
    }
}
```

Algorithm GraphColoring(k)

```
{
    while(true)
    {
        NextValue(k);
        if(x[k] = 0) then return;
        if(k = n) then
            write(x[1 : n]);
        else
            GraphColoring(k + 1);
    }
}
```