

Lämpchen-Aufgabe (Lineare Algebra)

```
In[1]:= a = {
  {1,1,0,1,0,0,0,0,0},
  {1,1,1,0,1,0,0,0,0},
  {0,1,1,0,0,1,0,0,0},
  {1,0,0,1,1,0,1,0,0},
  {0,1,0,1,1,1,0,1,0},
  {0,0,1,0,1,1,0,0,1},
  {0,0,0,1,0,0,1,1,0},
  {0,0,0,0,1,0,1,1,1},
  {0,0,0,0,0,1,0,1,1}
}; MatrixForm[a]
```

```
Out[1]//MatrixForm=
  1  1  0  1  0  0  0  0  0
  1  1  1  0  1  0  0  0  0
  0  1  1  0  0  1  0  0  0
  1  0  0  1  1  0  1  0  0
  0  1  0  1  1  1  0  1  0
  0  0  1  0  1  1  0  0  1
  0  0  0  1  0  0  1  1  0
  0  0  0  0  1  0  1  1  1
  0  0  0  0  0  1  0  1  1
```

```
In[2]:= {Det[a],Mod[Det[a],2]}
```

```
Out[2]= {-7, 1}
```

```
In[3]:= Mod[LinearSolve[a,7*{1,1,1,1,1,1,1,1,1}],2]
```

```
Out[3]= {1, 0, 1, 0, 1, 0, 1, 0, 1}
```

```
In[4]:= Mod[LinearSolve[a,7*{1,0,0,0,0,0,0,0,0}],2]
```

```
Out[4]= {1, 0, 1, 0, 0, 1, 1, 1, 0}
```