

Diskrētā matemātika

Grafu matricas (16.03.2007.)

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In[34]:=

```
<<DiscreteMath`Combinatorica`
```

Izveidosim grafu G (skat. lekcijās aplūkoto grafu), pievienojot tukšajam grafam O_5 ar virsotnēm 1,2,3,4,5 šķautnes $e_1=\{1,3\}, e_2=\{1,2\}, e_3=\{3,4\}, e_4=\{3,2\}, e_5=\{4,2\}, e_6=\{5,2\}$. Šķautnes ievadām to numerācijas secībā.

In[35]:=

```
G=AddEdges[EmptyGraph[5],{{1,3},{1,2},{3,4},{3,2},{4,2},{5,2}}]
```

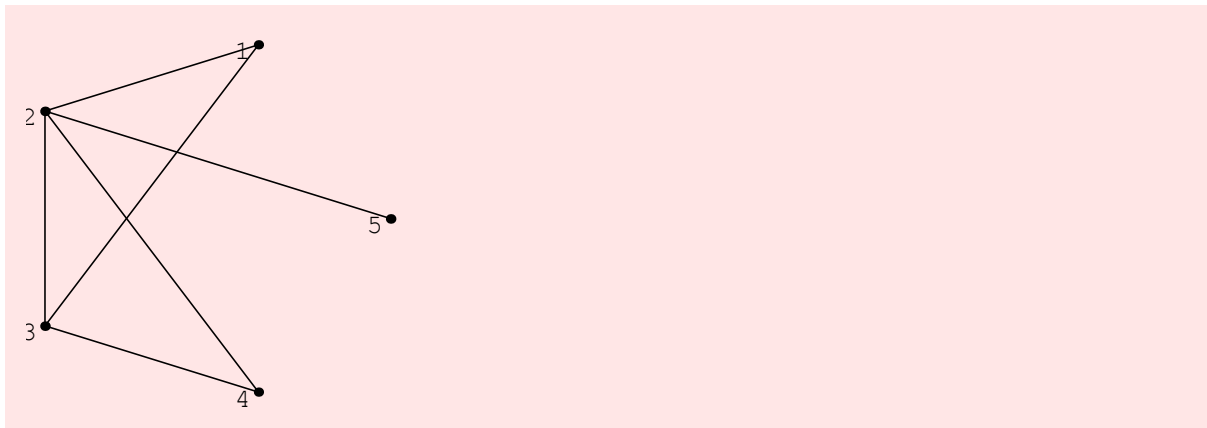
Out[35]=

```
-Graph:<6, 5, Undirected>-
```

Attēlojam grafiski grafu G.

In[36]:=

```
ShowGraph[G,VertexNumber->On]
```



Out[36]=

```
- Graphics -
```

Atrodam grafā G kaimiņmatricu.

```
In[37]:=
```

```
ToAdjacencyMatrix[G]//TableForm
```

```
Out[37]//TableForm=
```

```
0    1    1    0    0
1    0    1    1    1
1    1    0    1    0
0    1    1    0    0
0    1    0    0    0
```

Atrodam grafa G incidences matricu.

```
In[38]:=
```

```
IncidenceMatrix[G]//TableForm
```

```
Out[38]//TableForm=
```

```
1    1    0    0    0    0
0    1    0    1    1    1
1    0    1    1    0    0
0    0    1    0    1    0
0    0    0    0    0    1
```