

1 Getting started

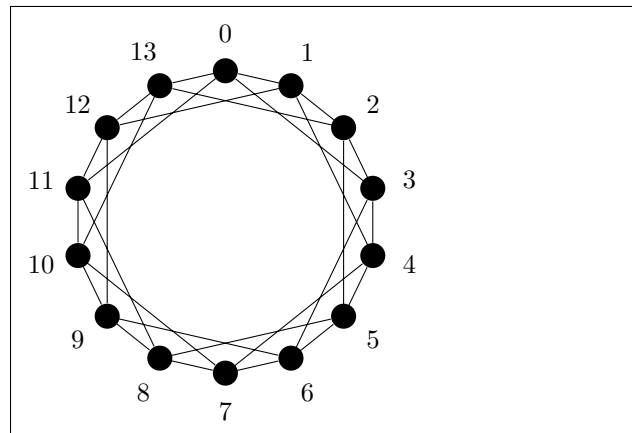
You need to load the packages `extchordalring` and `tikz` in preambles to use this package.

```
\usepackage{extchordalring}
\usepackage{tikz}
```

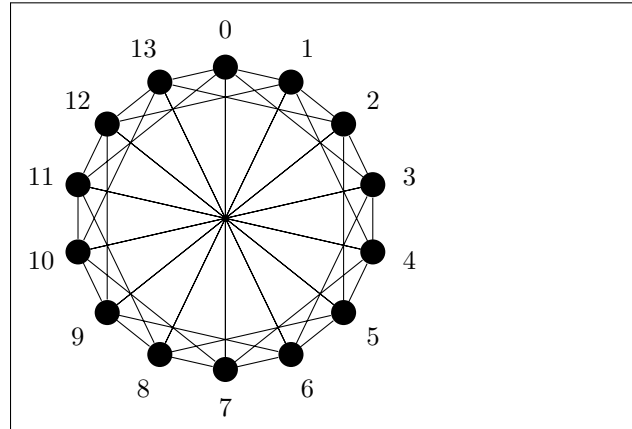
2 Standard rings

The command `\xcrCR` is available within the environment `tikzpicture` to draw a chordal ring or an extended, N-chordal ring.

```
1 \begin{tikzpicture}
2   \xcrCR(14, 3)
3 \end{tikzpicture}
```



```
1 % 2-chordal ring CR(14, 3, 7)
2 \begin{tikzpicture}
3   \xcrCR(14, 3, 7)
4 \end{tikzpicture}
```



3 Drawing edges manually

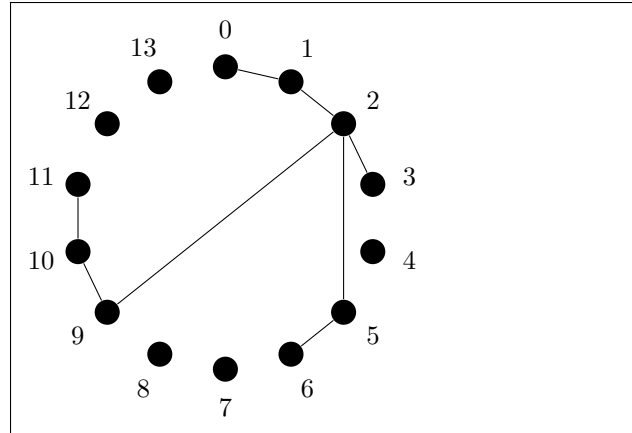
Optionally, you can manually specify which edges should appear in the ring.

Space-separated lists or space-separated pairs can be used to draw paths or edges in rings.

```

1 \begin{tikzpicture}
2   \xcrCR(14)[
3     0 1 2 3,
4     6 5 2 9 10 11
5   ]
6 \end{tikzpicture}

```

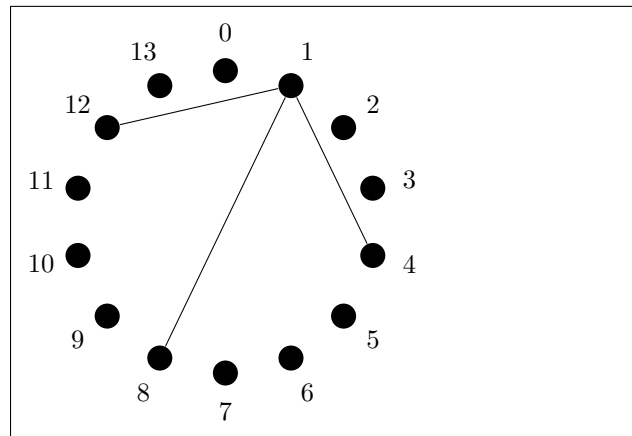


You can also use the syntax $\langle a \text{ vertex} \rangle \text{ adj } \langle a \text{ space-separated list of vertices} \rangle$ to draw edges between a vertex and its adjacent vertices.

```

1 \begin{tikzpicture}
2   \xcrCR(14)[
3     1 adj 4 8 12
4   ]
5 \end{tikzpicture}

```

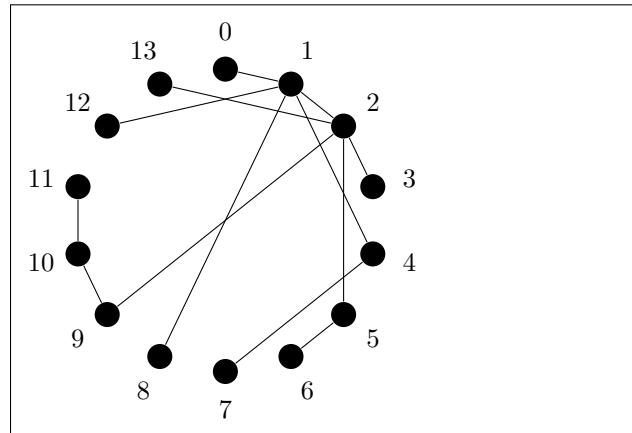


Furthermore, these notations can be used simultaneously with each other.

```

1 \begin{tikzpicture}
2   \xcrCR(14)[
3     0 1 2 3, 5 6, 9 10 11,
4     1 adj 4 8 12,
5     2 adj 5 9 13,
6     4 7
7   ]
8 \end{tikzpicture}

```

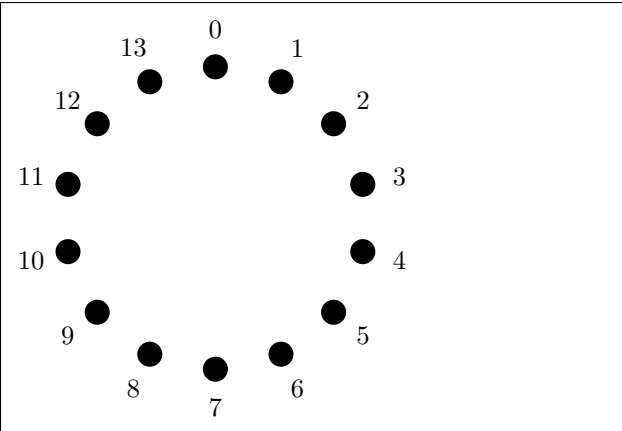


A ring with no edges can be drawn by passing `[]` as option.

```

1 \begin{tikzpicture}
2   \xcrCR(14) []
3 \end{tikzpicture}

```



4 Styling and Preferences

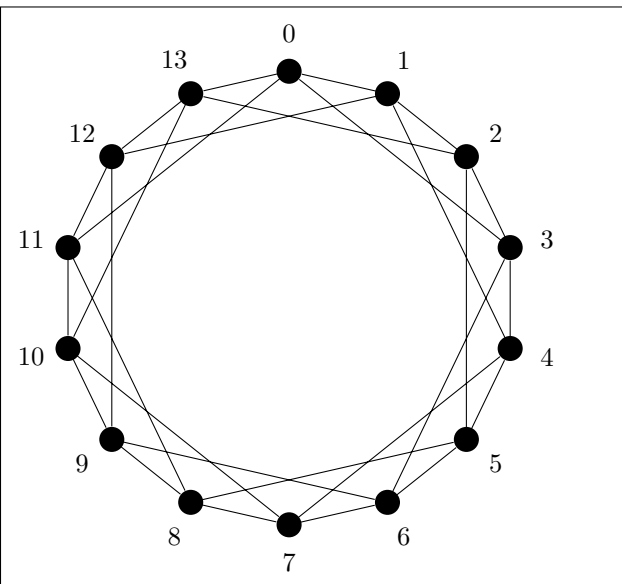
The package provides some optional keys to change the styles or preferences of drawn chordal ring.

You can set the optional key **xcr radius** which is defaulted to 2, to change the radius of chordal rings.

```

1 \begin{tikzpicture}
2   \xcrCR[xcr radius=3](14,3)
3 \end{tikzpicture}

```

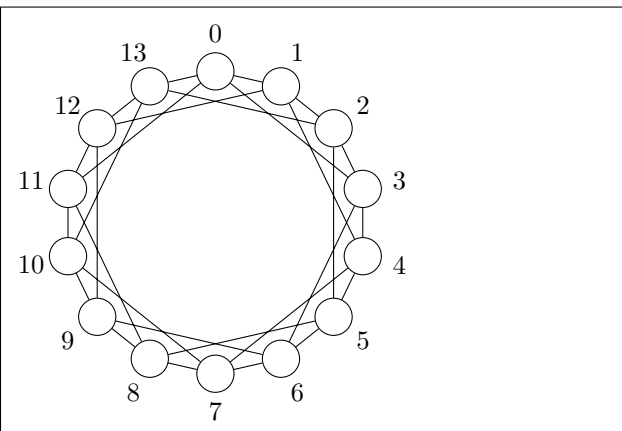


The key **xcr node/style** can be used to style the vertices in chordal rings.

```

1 \begin{tikzpicture}
2   \xcrCR[
3     xcr node/.style={
4       shape=circle,
5       minimum size=14pt,
6       draw=black,
7       fill=white,
8     }
9   ](14,3)
10 \end{tikzpicture}

```

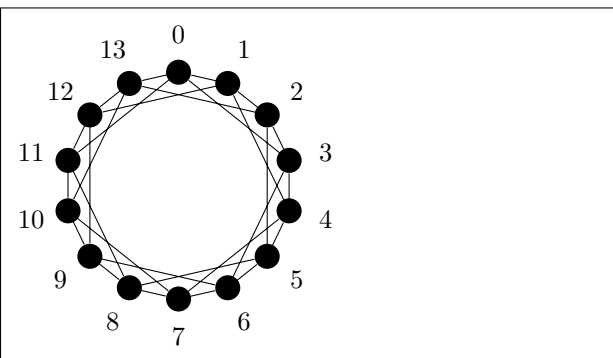


You can also set the options of styling and preferences through something like the command **tikzset** or the options of the environment **tikzpicture** as you can for other tikz options.

```

1 \tikzset{xcr radius=15mm}
2
3 \begin{tikzpicture}
4   \xcrCR(14,3)
5 \end{tikzpicture}

```



```

1 \begin{tikzpicture}[
2   xcr radius=15mm,
3 ]
4   \xcrCR(14,3)
5 \end{tikzpicture}

```

