Light Source

In[171]:=
```
Light = {0, 0, 0, 3};
```

Vertices

In[172]:=
```
A1 = {1, 1, 1, 1};
A2 = {1, 1, 1, -1};
A3 = {1, 1, -1, 1};
A4 = {1, 1, -1, -1};
A5 = {1, -1, 1, 1};
A6 = {1, -1, 1, -1};
A7 = {1, -1, -1, 1};
A8 = {1, -1, -1, -1};
A9 = {-1, 1, 1, 1};
A10 = {-1, 1, 1, -1};
A11 = {-1, 1, -1, 1};
A12 = {-1, 1, -1, -1};
A13 = {-1, -1, 1, 1};
A14 = {-1, -1, 1, -1};
A15 = {-1, -1, -1, 1};
A16 = {-1, -1, -1, -1};
```

In[188]:=

Shadows of vertices on the 3d subspace

In[189]:=
```
B1 = (Light + (Light - A1) (-6) / (3 - A1[[4]]))[[1 ;; 3]];
B2 = (Light + (Light - A2) (-6) / (3 - A2[[4]]))[[1 ;; 3]];
B3 = (Light + (Light - A3) (-6) / (3 - A3[[4]]))[[1 ;; 3]];
B4 = (Light + (Light - A4) (-6) / (3 - A4[[4]]))[[1 ;; 3]];
B5 = (Light + (Light - A5) (-6) / (3 - A5[[4]]))[[1 ;; 3]];
B6 = (Light + (Light - A6) (-6) / (3 - A6[[4]]))[[1 ;; 3]];
B7 = (Light + (Light - A7) (-6) / (3 - A7[[4]]))[[1 ;; 3]];
B8 = (Light + (Light - A8) (-6) / (3 - A8[[4]]))[[1 ;; 3]];
B9 = (Light + (Light - A9) (-6) / (3 - A9[[4]]))[[1 ;; 3]];
B10 = (Light + (Light - A10) (-6) / (3 - A10[[4]]))[[1 ;; 3]];
B11 = (Light + (Light - A11) (-6) / (3 - A11[[4]]))[[1 ;; 3]];
B12 = (Light + (Light - A12) (-6) / (3 - A12[[4]]))[[1 ;; 3]];
B13 = (Light + (Light - A13) (-6) / (3 - A13[[4]]))[[1 ;; 3]];
B14 = (Light + (Light - A14) (-6) / (3 - A14[[4]]))[[1 ;; 3]];
B15 = (Light + (Light - A15) (-6) / (3 - A15[[4]]))[[1 ;; 3]];
B16 = (Light + (Light - A16) (-6) / (3 - A16[[4]]))[[1 ;; 3]];
```

Shadow edges

In[205]:=
```
L1 = {Red, Line[{B1, B9}]};
L2 = {Red, Line[{B1, B5}]};
L3 = {Red, Line[{B1, B3}]};
L4 = {Red, Line[{B1, B2}]};
L5 = {Red, Line[{B2, B10}]};
L6 = {Red, Line[{B2, B6}]};
L7 = {Red, Line[{B2, B4}]};
L8 = {Red, Line[{B3, B11}]};
L9 = {Red, Line[{B3, B7}]};
L10 = {Red, Line[{B3, B4}]};
L11 = {Red, Line[{B4, B12}]};
L12 = {Red, Line[{B4, B8}]};
L13 = {Red, Line[{B5, B13}]};
L14 = {Red, Line[{B5, B7}]};
L15 = {Red, Line[{B5, B6}]};
L16 = {Red, Line[{B6, B14}]};
L17 = {Red, Line[{B6, B8}]};
L18 = {Red, Line[{B7, B15}]};
L19 = {Red, Line[{B7, B8}]};
L20 = {Red, Line[{B8, B16}]};
L21 = {Red, Line[{B9, B13}]};
L22 = {Red, Line[{B9, B11}]};
L23 = {Red, Line[{B9, B10}]};
L24 = {Red, Line[{B10, B14}]};
L25 = {Red, Line[{B10, B12}]};
L26 = {Red, Line[{B11, B15}]};
L27 = {Red, Line[{B11, B12}]};
L28 = {Red, Line[{B12, B16}]};
L29 = {Red, Line[{B13, B15}]};
L30 = {Red, Line[{B13, B14}]};
L31 = {Red, Line[{B14, B16}]};
L32 = {Red, Line[{B15, B16}]};
```

Light rays (cannot be displayed in 3d)

4D Cube edges (cannot be displayed in 3d)

Display graphics

In[237]:=
```
Graphics3D[{Thick, L1, L2, L3, L4, L5, L6, L7, L8, L9,
  L10, L11, L12, L13, L14, L15, L16, L17, L18, L19, L20, L21, L22,
  L23, L24, L25, L26, L27, L28, L29, L30, L31, L32}, Boxed → False]
```

Out[•]=