

```
h = Flatten[Table[x^n y^m z^l a^k, {n, 0, 3}, {m, 0, 3}, {l, 0, 3}, {k, 0, 3}]];
M = Flatten[Table[{a, b, c, d}, {a, 0, 1}, {b, 0, 1}, {c, 0, 1}, {d, 0, 1}], 3];
M // MatrixForm
```

$$\begin{pmatrix} 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 1 & 1 \\ 0 & 1 & 0 & 0 \\ 0 & 1 & 0 & 1 \\ 0 & 1 & 1 & 0 \\ 0 & 1 & 1 & 1 \\ 1 & 0 & 0 & 0 \\ 1 & 0 & 0 & 1 \\ 1 & 0 & 1 & 0 \\ 1 & 0 & 1 & 1 \\ 1 & 1 & 0 & 0 \\ 1 & 1 & 0 & 1 \\ 1 & 1 & 1 & 0 \\ 1 & 1 & 1 & 1 \end{pmatrix}$$

```
A[i_] := D[D[D[D[#, {x, M[[i, 1]]}], {y, M[[i, 2]]}], {z, M[[i, 3]]}], {a, M[[i, 4]]}] &
```

```
A[2][xy]
```

```
0
```

```
Co = Inverse[
  Transpose[Flatten[Table[A[j][h] /. x → M[[i, 1]] /. y → M[[i, 2]] /. z → M[[i, 3]] /.
    a → M[[i, 4]], {j, 16}, {i, 16}], 1]]];
```

```
s = {0, 2, 0, 0, 0, -2, 0, 0, 0}; zz = 0; aa = 1;
```

```
Plot3D[h.Sum[Co[[i]] * s[[i]], {i, Length[s]}] /. z → zz /. a → aa, {x, 0, 1}, {y, 0, 1}]
```

