```
(*Gibt alle Möglichkeiten zurück, wie man n0 Murmeln auf z0 Gefäße verteilen kann,
wobei in jedem Gefäß höchstens M0 Murmeln Platz haben*)
MurmelVerteilungen[n0_, z0_, M0_] :=
  Module[{n = n0, z = z0 - 1, M = M0, j, p,
    X = {}, x = Table[Max[0, n0 - M0 * (z0 - k)], {k, z0 - 1}]},

   (* X sind die z0-1 Positionen der Trennwände *)

   For[j = 0, j ≤ (n + 1)^z, j++,

    AppendTo[X, x];

    If[z == 0, Break[]]; (*das behandelt den Fall von z0=1,
    also einem Gefäß. Hier gibt es keine Trennwand.*)

    p = z;
    x[[p]]++;

    While[p > 1 && x[[p]] > Min[n, M + x[[p - 1]]],
     x[[p - 1]]++;
      x[[p ;; z]] = Table[Max[x[[p - 1]], n - M * (z - k + 1)], {k, p, z}];
      p--;
    ];
    If[p == 1 && x[[p]] > Min[n, M], Break[]];
   ];
   Differences[Join[{0}, #, {n}]] & /@ X];

m = MurmelVerteilungen[6, 2, 6]
```

```
{{0, 6}, {1, 5}, {2, 4}, {3, 3}, {4, 2}, {5, 1}, {6, 0}}
```

```
Tuples[m, 2]
```

```
{{{0, 6}, {0, 6}}, {{0, 6}, {1, 5}}, {{0, 6}, {2, 4}}, {{0, 6}, {3, 3}}, {{0, 6}, {4, 2}},
 {{0, 6}, {5, 1}}, {{0, 6}, {6, 0}}, {{1, 5}, {0, 6}}, {{1, 5}, {1, 5}}, {{1, 5}, {2, 4}},
 {{1, 5}, {3, 3}}, {{1, 5}, {4, 2}}, {{1, 5}, {5, 1}}, {{1, 5}, {6, 0}}, {{2, 4}, {0, 6}},
 {{2, 4}, {1, 5}}, {{2, 4}, {2, 4}}, {{2, 4}, {3, 3}}, {{2, 4}, {4, 2}},
 {{2, 4}, {5, 1}}, {{2, 4}, {6, 0}}, {{3, 3}, {0, 6}}, {{3, 3}, {1, 5}}, {{3, 3}, {2, 4}},
 {{3, 3}, {3, 3}}, {{3, 3}, {4, 2}}, {{3, 3}, {5, 1}}, {{3, 3}, {6, 0}}, {{4, 2}, {0, 6}},
 {{4, 2}, {1, 5}}, {{4, 2}, {2, 4}}, {{4, 2}, {3, 3}}, {{4, 2}, {4, 2}}, {{4, 2}, {5, 1}},
 {{4, 2}, {6, 0}}, {{5, 1}, {0, 6}}, {{5, 1}, {1, 5}}, {{5, 1}, {2, 4}}, {{5, 1}, {3, 3}},
 {{5, 1}, {4, 2}}, {{5, 1}, {5, 1}}, {{5, 1}, {6, 0}}, {{6, 0}, {0, 6}}, {{6, 0}, {1, 5}},
 {{6, 0}, {2, 4}}, {{6, 0}, {3, 3}}, {{6, 0}, {4, 2}}, {{6, 0}, {5, 1}}, {{6, 0}, {6, 0}}}
```