```
M = {6, 6, 6, 6, 6};
Nup = 11;
z = 6;


A = {}; For[i = Nup - Min[Nup, M], i ≤ Nup, i++,
 (*Loop über mögliche Gesamtzahlen für z-1 Gefäße*)
 For[x1 = 0 , x1 ≤ Min[M[[1]] + 0, i], x1++,
  For[x2 = x1, x2 ≤ Min[M[[2]] + x1, i], x2++,
   For[x3 = x2, x3 ≤ Min[M[[3]] + x2, i], x3++,
    For[x4 = x3, x4 ≤ Min[M[[4]] + x3, i], x4++,
     For[x5 = x4, x5 ≤ Min[M[[5]] + x4, i], x5++,
      For[x6 = x5, x6 ≤ Min[M[[6]] + x5, i], x6++,
       AppendTo[A, Differences[{0, x1, x2, x3, x4, x5, x6, i, Nup}]];
      ]
     ]
    ]
   ]
  ]
 ]
]

Exit[];
```

```
X = {}; For[i = Nup - Min[Nup, M], i ≤ Min[Nup, (z - 1) M],
 i++, (*Loop über mögliche Gesamtzahlen für z-1 Gefäße*)

 Print[i];
 x = Table[0, {z - 2}]; (*z-2 Wände !*)

 p = 1;

 For[j = 0, j ≤ i^(z - 2), j++,

   AppendTo[X, x];
   If[p > z - 2, Break[]];

   If[x[[p]] == i, x[[p]] = 0; p++];
   x[[p]] = x[[p]] + 1;

  ]

  Print[Differences[Join[{0}, x, {i, Nup}]]];
]
```

```
5
```

```
{5, 6}
```

```
6
```

```
{6, 5}
```

```
x = Table[Max[0, i - M * (z - k + 1)], {k, z}],
```

```
i = 16; z =; M = 6;

Verteilung[n0_, z0_, M0_] :=
 Module[{n = n0, z = z0, M = M0,
   X = {}, x = Table[Max[0, n - M * (z - k + 1)], {k, z}], j

    For[j = 0, j ≤ (n + 1)^z, j++,

     AppendTo[X, x];
     AppendTo[Xplot, x];

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

     AppendTo[Xplot, x];

     While[p > 1 && x[[p]] > Min[n, M + x[[p - 1]]],
       x[[p - 1]]++;
       AppendTo[Xplot, x];
       x[[p ;; z]] = Table[Max[x[[p - 1]], n - M * (z - k + 1)], {k, p, z}];
       AppendTo[Xplot, x];
       p--;
      ]


      If[p == 1 && x[[p]] > Min[i, M], Break[]];
    ]
X
```

A very large output was generated. Here is a sample of it:

```
{{0, 0, 0, 0, 0, 0, 0, 0}, {0, 0, 0, 0, 0, 0, 0, 1}, {0, 0, 0, 0, 0, 0, 0, 2},
 {0, 0, 0, 0, 0, 0, 0, 3}, {0, 0, 0, 0, 0, 0, 0, 4}, {0, 0, 0, 0, 0, 0, 0, 5},
 {0, 0, 0, 0, 0, 0, 1, 1}, <<1273>>, {4, 4, 4, 4, 4, 4, 5, 5},
 {4, 4, 4, 4, 4, 5, 5, 5}, {4, 4, 4, 4, 5, 5, 5, 5}, {4, 4, 4, 5, 5, 5, 5, 5},
 {4, 4, 5, 5, 5, 5, 5, 5}, {4, 5, 5, 5, 5, 5, 5, 5}, {5, 5, 5, 5, 5, 5, 5, 5}}
```

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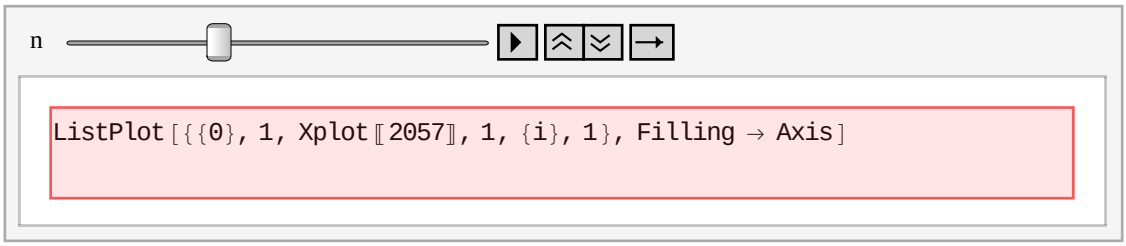
```
Animate[ListPlot[{#, 1} & /@ Join[{0}, Xplot[[n]], {i}], Filling → Axis],
 {n, 1, Length[Xplot], 1}, AnimationRunning → False]
```




```
d = Differences[Join[{0}, #, {i}]] & /@ X;
```