

# Generation of Cayley graphs

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**Algorithm 1** Group elements generation

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**Require:**  $generation\_set[], n$

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1:  $stack[] \leftarrow generation\_set[]$ 
2:  $stack\_element \leftarrow stack[0]$ 
3: while  $stack[]$  not empty do
4:   for all  $generating\_element \leftarrow generation\_set[]$  do
5:      $multiplication\_result \leftarrow (stack\_element * generating\_element) \bmod n$ 
6:      $multiplication\_results[stack\_element]$  append  $multiplication\_result$ 
7:      $stack[]$  append  $multiplication\_result$ 
8:   end for
9:   shift to the left  $stack[]$ 
10:   $stack\_element \leftarrow stack[0]$ 
11: end while
12: return  $multiplication\_results$ 
```

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