

# Document title

Author 1

June 27, 2024

## 1 First section

**Definition 1.1** (Lattice). *A lattice is a discrete subgroup of  $\mathbb{R}^n$*

**Theorem 1.1** (Minkowski’s bound). *let  $\mathcal{L}(B)$  be a full-rank lattice with basis  $B \in \mathbb{R}^{n \times n}$ , and  $B^* = [\mathbf{b}_1^*, \mathbf{b}_2^*, \dots, \mathbf{b}_n^*]$  be the Gram-Schmidt orthogonalization of  $B$ , then*

$$\lambda_1(\mathcal{L}(B)) \geq \min_{1 \leq i \leq n} |\mathbf{b}_i^*| \tag{1}$$

---

**Algorithm 1** An algorithm with caption

---

**Require:**  $n \geq 0$

**Ensure:**  $y = x^n$

```
y ← 1
X ← x
N ← n
while N ≠ 0 do
  if N is even then
    X ← X × X
    N ← N/2
  else if N is odd then
    y ← y × X
    N ← N − 1
  end if
end while
```

▷ This is a comment

---

Here is some citation[FO99]

## References

[FO99] Eiichiro Fujisaki and Tatsuaki Okamoto. Secure integration of asymmetric and symmetric encryption schemes. In *Annual international cryptology conference*, pages 537–554. Springer, 1999.