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# Chapter 1

## Functions

### 1.1 factor.mpqqs – MPQS

#### 1.1.1 mpqsfind

```
mpqsfind(n: integer, s: integer=0, f: integer=0, m: integer=0, verbose:  
bool=False )  
→ integer
```

Find a factor of *n* by MPQS(multiple-polynomial quadratic sieve) method.

MPQS is suitable for factorizing a large number.

Optional arguments *s* is the range of sieve, *f* is the number of factor base, and *m* is multiplier. If these are not specified, the function guesses them from *n*.

#### 1.1.2 mpqs

```
mpqs(n: integer, s: integer=0, f: integer=0, m: integer=0 )  
→ factorlist
```

Factorize *n* by MPQS method.

Optional arguments are same as **mpqsfind**.

#### 1.1.3 eratosthenes

```
eratosthenes(n: integer) → list
```

Enumerate the primes up to *n*.