

factorInteger.matlab

```
>> 2^227-1
```

```
ans =
```

```
2.1568e+068
```

```
>> factor(2^227-1)
```

```
??? Error using ==> factor at 25  
The maximum value of n allowed is 2^32.
```

```
>> help factor
```

```
FACTOR Prime factors.
```

```
FACTOR(N) returns a vector containing the prime factors of N.
```

This function uses the simple sieve approach. It may require large memory allocation if the number given is too big. Technically it is possible to improve this algorithm, allocating less memory for most cases and resulting in a faster execution time. However, it will still have problems in the worst case, so we choose to impose an upper bound on the input number and error out for $n > 2^{32}$.

Class support for input N:
float: double, single

See also primes, isprime.

Overloaded functions or methods (ones with the same name in other directories)
help sym/factor.m

Reference page in Help browser
doc factor

```
>> doc factor
```

```
Overloaded functions or methods (ones with the same name in other directories)  
doc symbolic/factor
```

```
>>
```