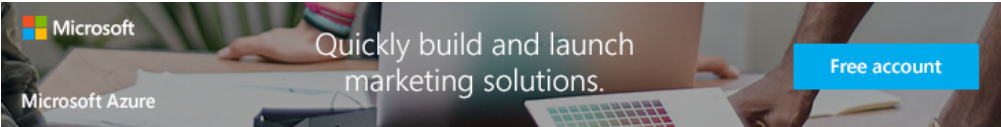


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normal_distribution
normal_distribution::(constructor)
member functions:
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public member function <random>  
std::normal\_distribution::operator()

```
(1) template<class URNG>
    result_type operator()(URNG& g);
(2) template<class URNG>
    result_type operator()(URNG& g, const param_type& parm);
```

**Generate random number**  
Returns a new random number that follows the distribution's parameters associated to the object (version 1) or those specified by *parm* (version 2).  
  
The generator object (*g*) supplies uniformly-distributed random integers through its `operator()` member function. The `normal_distribution` object transforms the values obtained this way so that successive calls to this member function with the same arguments produce floating-point values that follow a *Normal distribution* with the appropriate parameters.

Parameters
<b>g</b> A uniform random number generator object, used as the source of randomness. URNG shall be a <i>uniform random number generator</i> type, such as one of the standard generator classes.
<b>parm</b> An object representing the distribution's parameters, obtained by a call to member function <code>param</code> . <code>param_type</code> is a member type.

**Return value**  
A new random number.  
`result_type` is a member type, defined as an alias of the first class template parameter (`RealType`).

**Example**

```
1 // normal_distribution example
2 #include <iostream>
3 #include <chrono>
4 #include <random>
5
6 int main()
7 {
8     // construct a trivial random generator engine from a time-based seed:
9     unsigned seed = std::chrono::system_clock::now().time_since_epoch().count();
10    std::default_random_engine generator (seed);
11
12    std::normal_distribution<double> distribution (0.0,1.0);
13
14    std::cout << "some Normal-distributed(0.0,1.0) results:" << std::endl;
15    for (int i=0; i<10; ++i)
16        std::cout << distribution(generator) << std::endl;
17
18    return 0;
19 }
```

Possible output:

```
some Normal-distributed(0.0,1.0) results:
1.01253
-1.6811
0.722295
-1.73855
0.0196423
-2.51224
1.37467
0.999222
1.24636
2.02573
```

**Complexity**  
Amortized constant (a constant number of invocations of `g.operator()`).

See also
<a href="#">normal_distribution::param</a> Distribution parameters (public member function)

normal\_distribution::param  
normal\_distribution::reset  
normal\_distribution::stddev

**non-member functions:**  
operator<<  
operator>>  
relational operators

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