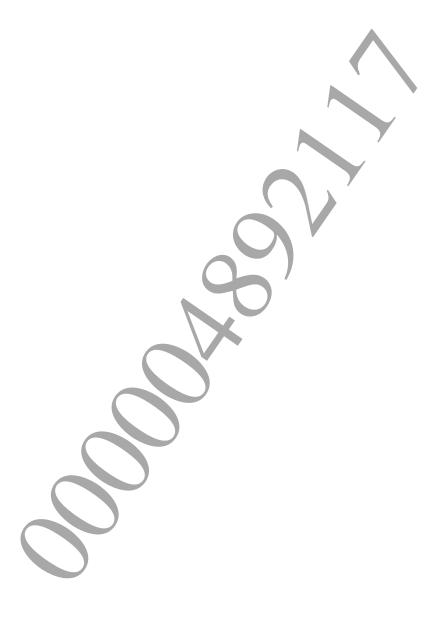


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1 Library Overview

Overview

The SIMD-oriented Fast Mersenne Twister library (libsfmt19937) is used for generating pseudo random numbers in conformance with SMFT19937.

Related Files

The following files are required to use libsfmt19937.

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Filename	Description	
libsfmt19937.h	Header file	
libSceSfmt19937.a	Static link library file	
libSceSfmt19937_stub.a	Stub library file	
libSceSfmt19937_stub_weak.a	weak import stub library file	
libsfmt19937.suprx	PRX module file	



2 Using the Library

Basic Usage Procedure

(1) Initialize random number sequence

Call sceSfmt19937InitGenRand() to initialize the random number sequence.

```
SceSfmt19937Context ctx;
sceSfmt19937InitGenRand(&ctx, seed);
```

A 32-bit seed value is passed in the <code>seed</code> argument. This value is used to initialize the random number sequence and initialize the state of the <code>SceSfmt19937Context</code> structure. Subsequently, pseudo random numbers can be obtained by calling the <code>sceSfmt19937GenRand32()</code> function.

(2) Obtain random number

The sceSfmt19937GenRand32() function is used to generate a pseudo random number.

```
res = sceSfmt19937GenRand32(&ctx);
```

When the sceSfmt19937GenRand32() function is called, a pointer to the SceSfmt19937Context structure that was previously initialized by the sceSfmt19937InitGenRand() function, is passed as the argument. Since libsfmt19937 does not maintain any state internally, an arbitrary number of random number sequences can be generated by preparing multiple SceSfmt19937Context structures.

Saving and Getting a Random Number Sequence

If the contents of the SceSfmt19937Context structure are saved in advance, the random number sequence can be replayed later.