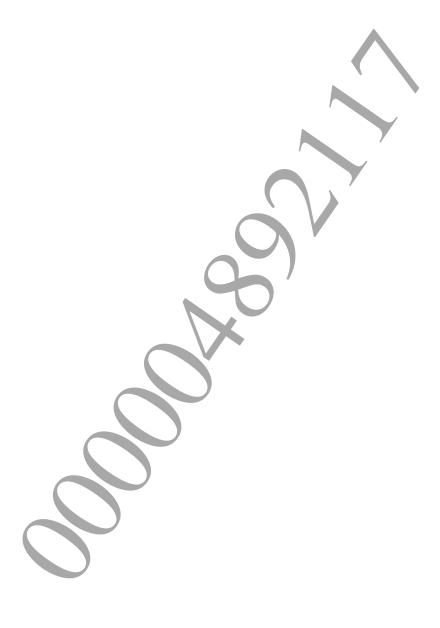


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# **Table of Contents**

1 Library Overview	
Overview	
Files	
2 Usage Procedure	
Basic Usage Procedure	
Saving and Obtaining a Random Number Sequence	2



# **1** Library Overview

### Overview

The Mersenne Twister library (libmt19937) is used for generating a pseudo random number using the MT19937 algorithm.

### **Files**

The following files are required to use libmt19937.

The following files are require	ed to use libmt19937.	
Filename	Description	
libmt19937.h	Header file	
libSceMt19937.a	Static link library file	, ,
libSceMt19937_stub.a	Stub library file	· ·
libSceMt19937_stub_weak.a	weak import stub library file	
libmt19937.suprx	PRX module file	Y

# 2 Usage Procedure

### **Basic Usage Procedure**

#### (1) Initialize random number sequence

The sceMt19937Init() function is used to initialize the random number sequence.

```
SceMt19937Context ctx;
sceMt19937Init(&ctx, seed);
```

A 32-bit seed used for initializing the random number sequence is passed in the <code>seed</code> argument. The seed is used to initialize the state of the <code>SceMt19937Context</code> structure, and enables pseudo random numbers to be subsequently obtained by calling the <code>sceMt19937UInt()</code> function.

#### (2) Obtain random number

The sceMt19937UInt () function is used to generate a pseudo random number.

```
res = sceMt19937UInt(&ctx);
```

When the sceMt19937UInt() function is called, it is passed a pointer to the SceMt19937Context structure. This is the structure that was previously initialized by the sceMt19937Init() function. Since libmt19937 does not maintain any internal state, any number of random number sequences can be generated by preparing multiple SceMt19937Context structures.

## Saving and Obtaining a Random Number Sequence

If the contents of the SceMt19937Context structure are saved in advance, the same random number sequence can be regenerated later.