This is the code that utilises a circular counter from 1 to 6.

```
#include "dice_roller_counter.h"

ap_uint<3> get_rand()
{

	ap_uint<3> r;
	static ap_uint<3> count = 0;

	if (count == 6)
		count = 1;
	else
		count++;

	r = count;

	return r;
}


void dice_roller_counter(
		bool         roll,
		ap_uint<8>  &seven_segment_data,
		ap_uint<4>  &seven_segment_enable) {
#pragma HLS INTERFACE ap_none port=roll
#pragma HLS INTERFACE ap_none port=seven_segment_data
#pragma HLS INTERFACE ap_none port=seven_segment_enable
#pragma HLS INTERFACE ap_ctrl_none port=return
#pragma HLS PIPELINE

	static ap_uint<3> rand_number = 0;

	ap_uint<3> r = get_rand();
	if (roll == 1)
		rand_number = r;

	seven_segment_data = svn_sg_code[rand_number];
	seven_segment_enable = 0b1110;

}
```