

LAB 11/13

1. Understand the following method of random number generation.

```
#include<stdio.h>
#include<stdlib.h>
#include<time.h>

int main()
{
    srand(time(NULL));
    int range=10000;
    int bound=(RAND_MAX+1)/range,x;
    do{
        x=rand();
    }while(x>=bound*range);
    printf("%d\n",x%range);
    return 0;
}
```

Please write a program to generate uniform distribute random number in range15~35.

2. Pint RAND_MAX first and then write a program to generate uniform distribute random number in range0~131071.

Note : $131072=32768*4$

$\text{rand()} \% 4$ is uniform distribution

$\text{rand}()$ is uniform distribute in $0 \sim 32767$

3. Use the concept of 1 and 2. Now input a number x ($x > 32767$), write a program to generate uniform distribute random number in range $0 \sim x-1$.