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/*
Random Number Generator
Written by Michael Zafonte

Intro to Computer Science

This program uses 3 command line arguments, 1 of which is optional
to generate random numbers.
*/

#define _XOPEN_SOURCE

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

#define LIMIT 65536

// void srand48(long int seedval);
// double drand48(void);

int main(int argc, char* argv[])
{
    if (argc != 3 && argc != 4)
    {
        printf("Usage: rng n max [s]\n");
        printf("count: %d \n", argc);
        return 1;
    }

    int num = atoi(argv[1]);
    int max = atof(argv[2]);

    if (max > LIMIT)
    {
        printf("max cannot be greater than or equal to 65536\n");
    }

    if (argc == 3)
    {
        srand48(time(NULL));

        for(int i = 0; i < num; i++)
        {
            printf("%d\n", (int) (drand48() * max));
        }
    } else if (argc == 4)
    {
        int seed = atoi(argv[3]);

        srand48(seed);

        for(int i = 0; i < num; i++)
        {
            printf("%d\n", (int) (drand48() * max));
        }
    }
}
```

}