/* Example of using random numbers in C */

#include <stdio.h>
#include <stdlib.h>  /* for rand() and srand() */
#include <time.h>    /* needed for time() */

/* rand generates a random integer between 0 and RAND_MAX
   However, it will produce the same results every time it is run
   unless srand() is used to "seed" the random number generator.
   Srand is DOES NOT generate a random number. Seeding srand() with
   time(NULL) will generate a random number with somewhat random
   seeding.

*/

int main ()
{
    int number = 0;
    unsigned int seed;

    printf("The maximum random number is %d\n", RAND_MAX);
    printf("number = %d\n", number);
    number = rand();
    printf("number = %d\n", number);
    number = rand();
    printf("number = %d\n", number);
    number = rand();
    printf("number = %d\n", number);
    number = rand();
    printf("number = %d\n", number);
    seed = time(NULL);
    printf("Seeding the random number generator with %d\n", seed);
    srand(seed);
    number = rand();
    printf("number = %d\n", number);
    number = rand();
    printf("number = %d\n", number);
    number = rand();
    printf("number = %d\n", number);
    number = rand();
    printf("number = %d\n", number);
    return 0;
}
And the Output:

```bash
linux1[17] % gcc -ansi -Wall cmsc201-d1-rank.c  
linux1[18] % ./a.out  
The maximum random number is 2147483647  
number = 0  
number = 1804289383  
number = 846930886  
number = 1681692777  
Seeding the random number generator with 1001395159  
number = 1551321931  
number = 81614691  
number = 304661794  
linux1[19] % ./a.out  
The maximum random number is 2147483647  
number = 0  
number = 1804289383  
number = 846930886  
number = 1681692777  
Seeding the random number generator with 1001395163  
number = 1410550711  
number = 407291841  
number = 752854564  
linux1[20] % ./a.out  
The maximum random number is 2147483647  
number = 0  
number = 1804289383  
number = 846930886  
number = 1681692777  
Seeding the random number generator with 1001395166  
number = 500423780  
number = 1997388624  
number = 561646869
```

---

Notice how the random numbers before `srand()` or the same each time but the ones after the random number generator is seeded is not.