#include <stdio.h>

#include <string.h>

#define MOD (1000000000LL)

long long d[1000010];

int main()

{

freopen("sumset.in", "r", stdin);

freopen("sumset.out", "w", stdout);

int n, i, j;

scanf("%d", &n);

memset(d, 0, sizeof(d));

d[0] = 1;

for (i = 0; i < 20; i++)

for (j = 0; j <= n; j++)

if (j+(1<<i) <= n)

d[j+(1<<i)] = (d[j+(1<<i)]+d[j])%MOD;

printf("%lld\n", d[n]);

return 0;

}