**BigMod and Mod Inverse, O(long n)**

Tested on: UVa 374

long long Bigmod(long long base, long long power)

{

long long ret=1;

while(power)

{

if(power & 1)

ret=(ret\*base)%MOD;

base=(base\*base)%MOD;

power>>=1;

}

return ret;

}

long long ModInverse(long long number)

{

return Bigmod(number, MOD-2);

}