**Input a ,b.**

**Returns X,Y,D in vector such that aX+bY=D, where D is the greatest common divisor of a and b**

**|X|+|Y| is the minimal (primarily) and X<=Y (secondarily).**

vector<int> Extended\_Euclid(int a, int b)

{

int last\_x=1,last\_y=0,x=0,y=1,tmp,quotient,reminder;

while(b)

{

quotient=a/b;

reminder=a%b;

a=b;

b=reminder;

tmp=x;

x=last\_x-quotient\*x;

last\_x=tmp;

tmp=y;

y=last\_y-quotient\*y;

last\_y=tmp;

}

vector<int>res;

res.push\_back(last\_x);

res.push\_back(last\_y);

res.push\_back(a);

return res;

}