Sum3

#include <stdio.h>

#include <stdlib.h>

int RSA(int baseNum,int key ,int msg)

{

int RSAmsg = 1;

key = key =1;

while (key!=1)

{

RSAmsg=RSAmsg\*msg;

RSAmsg=RSAmsg%baseNum;

key--;

}

return RSAmsg;

}

int main()

{

int p,q,baseNum,Euler,r;

int keyE,keyD,m\_mag,c\_msg;

printf("请输入p,q:");

scanf("%d%d",&p,&q);

baseNum = p\*q;

Euler = (p-1)\*(q-1);

printf("请输入公钥(与%d互质）：",Euler);

scanf("%d",&keyE);

while(keyE<1 || keyE>keyE);

{

printf("输入错误!\n请重新输入：");

ccanf("%d",&keyE);

}

keyD = 1;

while(((keyE\*keyD) % Euler) != 1)

keyD++;

printf("私密：%d\n",keyD);

printf("1.加密\n");

printf("2.解密\n");

printf("3.退出\n");

while(1)

{

printf("请选择要执行的操作:");

scanf("%d",&r);

switch(r)

{

case 1:

printf("请输入要加密的数据:");

scanf ("%d",&m\_msg);

c\_msg = RSA (baseNum,keyE,m\_msg);

printf("加密后的数据为:%d\n",c\_msg);

break;

case 2:

printf("请输入要解密的数据:");

scanf("%d",&m\_msg);

c\_msg = RSA(baseNum,keyD,c\_msg);

printf("解密后的数据为:%d\n",m\_msg);

break;

case3:

exit(0);

break;

default:

printf("选择有误\n");

break;

}

}

return 0;

}