**Diffie Hellman**

**Software: Scilab**

clc;

g=7;

p=23;

printf("\n The resuls are as follows:\n\n");

x=3;

y=6;

R1=modulo(g^x,p);

R2=modulo(g^y,p);

printf("1)Alice choose x=%d & calculates R1=%d\n\n 2)Bob chooses y=%d & calculates R2=%d\n\n 3)Alice sends the number %d to Bob \n\n 4)Bob sends the number %d to Alice \n\n",x,R1,y,R2,R1,R2);

K\_Alice =modulo((R2)^x,p);

K\_Bob=modulo((R1)^y,p);

K\_Final=modulo(g^(x\*y),p);

printf('5)Alice calculates the symmetric key K=%d \n\n6)Bob calculates the symmetric key k=%d\n\n7)K\_Final=%d \n\n',K\_Alice,K\_Bob,K\_Final);

