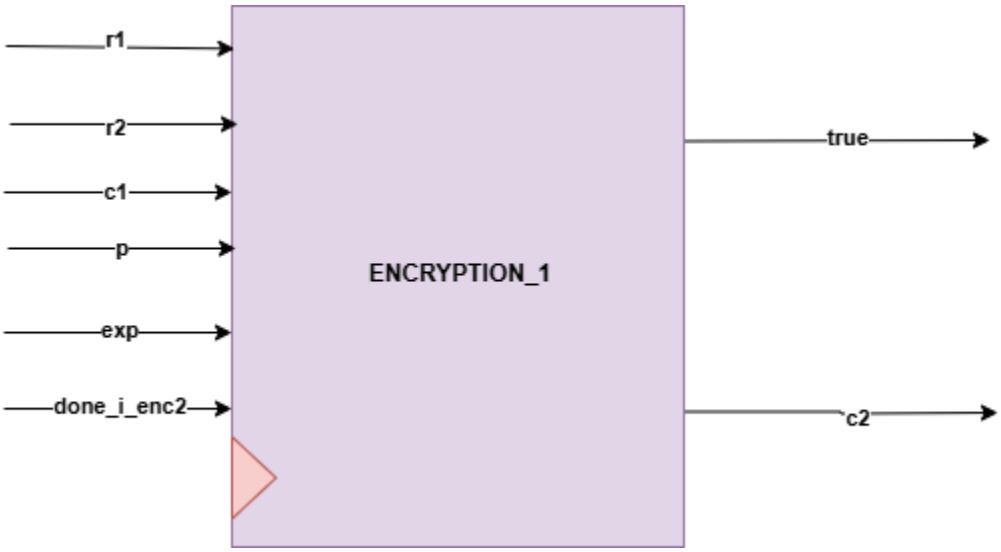
ENCRYPTION_1

Introduction

This block contain 3 blocks (CLC_K , CHECK_1 , CLC_C2), which calculate required key then decrypt by this key c1 input to get R2` then check if received R2 = R2`.

Design and Implementation:

Block Diagram



Interfaces

Signals	Width	Interface	Description
R1	INPUT	U0_CLC_R1	R1 = (g^x) mod p
R2	INPUT	U0_CLC_R2	R2 = (g^y) mod p
C1	INPUT	U0_ENCRYPTION_R2	C1 = K, ExOR R2
exp	INPUT	U2_exponentiation_r	(g^x)
P	INPUT	TOP MODULE INPUT	The prime number p must be very large
Done_i_enc2	INPUT	U2_exponentiation_r	Start flag
true	OUTPUT	U0_CONTROLKER	Flag for first check was correct
C2	OUTPUT	U0_CHECK_2	C2=E (K, R1)