Dorte a program to implement error detection and cornection using teamming code concept.

Cornection using teamming code concept.

Nake a test over to input date stream and waste a test over to input date stream and verify error cornection feature.

tamming code is a set of error-commuter on code that can be used to detect and cornect the errors that can oce o when the data is transmitted from the sender to the new new war. It is a technique developed by 2 to . Happining for error cornection.

Code:

include < 8tolio. h>

include < 8toing. h>

include < 8toing. h>

include < math. h>

include < stoing [(char ch, int Binary [], included for the first in

void calculate Parity Bits (int harming code E).

int n, int r) &

for (int 1=0; 1×n; 1++) &

int parity Pos = (int) fow (2;11);

int parity 20

for (int 9= parity Pos, Pe=n; It = (2 + parity pos)) } for Cint E= 5: K=5. + Harrity Pos 20 k (=n,k+t) { parity 1= hamming ande [k]. Ramming Code [Parity Pos]: parity 9>1 (0=1 di) reint generaliteming Code (int data BIG E), intim, Int humming Code []) & section of the Medical Stage Int n=m, While (n+8+1> pow(2,8)) } n=mtr/ for Contral, \$20; k=0; [4=n; [++)] HCr= (n+1 pow(e, k))? hanning Code [i] 20: Etal and spile the hanning Code [i]= clata Bit [j++]. (g/12 to 1 1 (o) (o) to 57 (o) 1 (i) ook. charto Bircal Chartstains [1], benow, C. Gelige

calculate parity Bot (havining Code 11, 7), word binary to char (9ht binary [7, Int length cher output) & Int Index=0," for (Int 1=0; Pelength, 1+=0) & charch'so, for (int 1=0; 12; 17+)? ... Chi-Chinosy [+1] <<(77). output [index+t]=chi
output [index]=1101. chan Poput String [32]; Int binary [256]; Int date Bits [256]1: Int hamming Code [t/2], Printfl' Cali input string. (1) scanf ("1/8", Inputstony), int Index =0, too (int 150; 92 stolen (input shing); 5(++1 charto Binery Criputstrong [i], blum, egrder), 3

for 19nt 1=0.92 inder: 1++ 22 date Bite [i]: binamy [i]; Mt n= generate Hamming Gode (dataBits, index, hamming (ode)); printf (" Generated Hamming code: "). for Lint 1=1; Px=n; 1++22 y print (uy.de, hamming Code [i]); int country Dales & Col. pointf(" | n "). Intervolos, 10:11 Seart (41/d4 Deron Pos) 1. f (over box >0 & essep box (> 1) 5 Lamming rode [com Pos] = 1 nounigerode ent déteited Évoroirles: deteit Land Cornet Evor Chamming Code, h Gog 2 (N+1)) of Cdeleted Foror Pos ==0)> prints (" No arror detected. In a). prof (" Good detected at position y, d'n) Else & deticted Ermo Pos). int original Bit=! hamningCode [detected & oronday] hanning Code [detelet Etoor los] = original Bit,

printf (" Cornected Haming Code: "), -for (Int 1=1; Pash, P++) ? 1 point (C4) d « hanning Code [i]), printf(" (no)!

printf(" Coroueled bit at position /d" orginal Bit); j'
int corrected Data Bits [256]; : (1/1) Hitop intiso, kso, for (1nt=1,182 n; 17+)? 2013 0000 10 if (il's (9nt) pow (2, k)) (1) . Corneled Date Bits G++] chan corneted String [32], prinner binary To char Corneted Pate Bit of conneted profit a country string: 1.5 /14 corneted Storng); oct of them. to betell roy (3 4) HARD. int original lite , bouning all labelle or the Johnson Colocate Som Por 1: 00 9110 [life.

Input & Output: enter the Proper storing, hello Generaled Hanning Code, 11011101100001110 0101011011000110111000110111 Ente the position to similate error Co. for no error):3 Hanning code with error, 111111101100001110 0101011011000111101100011014119 Erre detettes at Position: 3 Corrected bit at position 8: 2 days Peoult:
There the harming code detections and cornectes 9s applied and morfied the output. Manie frances monthers) dide inter whose of " Justing. In some sight, 22 northod most most stalley - 3 + (it morthus) in some of walries to mort the estive) in surficient of mathematical free of the forther & (4+) (como force), elle calife