VARDHAMAN COLLEGE OF ENGINEERING

(AUTONOMOUS)

Affiliated to JNTU H , Approved by AICTE, Accredited by NAAC with A+ + Grade, ISO 9001 :2015 Certified Kacharam, Shamshabad, Hyderabad - 501218, Telangana, India

Team-11

Computer Organization

Course End Project (CEP)

Roll No.



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VARDHAMAN COLLEGE OF ENGINEERING (AUTONOMOUS)

Problem Statement for Binary Addition using Booth Algorithm:

Design a circuit that performs binary addition using Booth's algorithm. The circuit should take two n-bit binary numbers A and B as input and produce their sum S as output. Implement the Booth's algorithm to efficiently perform the addition and handle the appropriate cases for positive and negative numbers.

# Problem Statement for Binary Subtraction using Booth Algorithm:

Develop a circuit that performs binary subtraction using Booth's algorithm.

The circuit should take two n-bit binary numbers A (minuend) and B (subtrahend) as input and produce their difference D as output. Implement the Booth's algorithm to efficiently perform the subtraction and handle the appropriate cases for positive and negative numbers.

# Code:

#include <stdio.h>

// function for Binary Addition int binAddition(int a, int b)

int c; //carry while (b != 0) (

//find carry and shift it left c = (a & 1;

//find the sum

a = a ^ b; b = c;

return a;

// function for Binary Subtraction int binSubtracton(int a, int b)

int carry;

//get 2's compliment ofb and add in a b = binAddition( b, 1);

while (b != 0) (

//find carry and shift it left carry = (a & 1;

//find the sum

a = a ^ b; b = carry;

return a;

int main()

int numberl, number2, binAdd, binsub;

printf("Input first integer value: "); scanf("%d", &number1);

printf("Input second integer value: "); scanf("%d", &number2);

binAdd = binAddition(number1, number2); binsub = binSubtracton(number1, number2);

printf("Binary Addition: %d\n", binAdd); printf("Binary Subtraction: %d\n", binsub);

return 0;

# Output:

Input first integer value: 5 Input second integer value: 4 Binary Addition: 9

Binary Subtraction: 1