**ASSIGNMENT-3**

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Subject: CO

Question.) Take two decimal numbers and divide them after converting to unsigned binary numbers. (Use cumulative SUBTRACTION)

Answer:

C file:

#include <stdio.h>

#include <stdlib.h>

#include "coa3.h"

*int* main()

{

*int* decimal1, decimal2;

    printf("\n\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n\n");

    printf("ENTER FIRST THE NUMBER: ");

    scanf("%d", &decimal1);

    printf("\n");

    printf("ENTER SECOND THE NUMBER: ");

    scanf("%d", &decimal2);

    printf("\n\n\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n\n");

    division\_unsigned\_binary\_numbers\_U20CS028(decimal1,decimal2);

}

Header file:

#include <stdio.h>

#include <math.h>

// decimal to binary

*long* *long* *int* dtob(*long* *long* *int* *decimal*)

{

*long* *long* *int* binary=0,x=1;

       while((x\*2)<=*decimal*)

            x\*=2;

       while(x>0)

       {

*long* *long* *int* a=*decimal*/x;

*decimal*-=a\*x;

            x/=2;

            binary=binary\*10+a;

       }

    return binary;

}

// binary to decimal

*long* *long* *int* btod(*long* *long* *int* *binary*)

{

*long* *long* *int* decimal=0,x=1;

    while(x>0)

    {

*long* *long* *int* a=*binary*%10;

        decimal+=x\*a;

        x\*=2;

*binary*/=10;

    }

    return decimal;

}

//ass3

*long* *long* *int* binary\_subtraction(*long* *long* *int* *x*,*long* *long* *int* *y*)

{

*long* *long* *int* binary1, binary2;

    binary1 = btod(*x*);

    binary2 = btod(*y*);

    return (dtob(binary1 - binary2));

}

*long* *long* *int* division\_unsigned\_binary\_numbers\_U20CS028(*long* *long* *int* *decimal1*,*long* *long* *int* *decimal2*)

{

*long* *long* *int* binary1 = dtob(*decimal1*);

*long* *long* *int* binary2 = dtob(*decimal2*);

*long* *long* *int* temp =binary\_subtraction(binary1, binary2);

*int* i;

    for (i = 1; i < *decimal1*; i++)

    {

        temp =binary\_subtraction(temp, binary2);

        if (temp == 0)

        {

            i++;

            break;

        }

        else if (temp < 0)

        {

            break;

        }

    }

    printf("THE DIVISION IN BINARY IS %lld.\n",dtob(i));

    printf("\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n");

    printf("THE DIVISION IN DECIMAL IS %d.\n",i);

    printf("\n\n\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\n\n\n");

    return 0;

}

Output:



