Project 1 Report

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CSCE212-002

1. Project Description:

This program would prompt for four inputs as positive integer(a,b,c,d). They will do exponent base on student ID. Then add former and latter two number and get “f” and “g”(f=a^x+b^y, g=c^w+d^z). Finally, get the quotient and remainder from f/g. Program would show each variable

1. Program Design:

Same way to other 3 input (4 for loops)

Show the ID and prompt for 4inputs

Print the result

i>=88

Get 4 input and store them

Get f and g by adding them

For(i=0;i<8;i++)

Print decimal and Binary of f&g

i<8

Use loop and subtract to find quotient and remainder

Use add to do exponent

My ID is 85898687, so my exponent number for a,b,c,d are 8,5,8,9.

Use loop and addition to make exponent

Use loop and subtract to make dividation

1. Symbol Table:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| $t0 | $t1 | $t2 | $t3 | $t4 | $t5 | $t6 | $t7 | $s0 | $s1 |
| a🡪 quotient | b🡪 remainder | c | d | i | j | f | g | Copy of a | Copy of a |

f and g are output

i and j is used in loop

$t0 and $t1 store quotient remainder in the end

Four inputs a,b,c,d

Use it in loop to swap

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| $s2 | $s3 | $s4 | $s5 | $s6 | $s7 |
| Copy of b | Copy of b | Copy of c | Copy of c | Copy of d | Copy of d |

Use it in loop to swap

1. Learning Coverage:

Loop

Syscall

If-statement

Load

Store

.data and .text

Addition and subtract

1. Test Plan:

1,1,1,1: this can make sure the loops are right and it is easy to determine the result.

2,2,2,2: the number of results would not be too big.

4,3,2,1: To check program still go right if have bigger number

1. Test Results:

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