Modelos de Computación.
Práctica 2.

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Resumen

Realización de al menos cuatro computaciones manuales para cada uno de los L-programas analizados en clase de teoría.

1. Función Asignación

1.1. Computación para la entrada $X = 0$

$$(1, < X = 0, Z = 0, Y = 0 >) \sim (2, < X = 0, Z = 0, Y = 0 >) \sim (7, < X = 0, Z = 0, Y = 0 >) \sim$$
$$(8, < X = 0, Z = 0, Y = 0 >) \sim (12, < X = 0, Z = 0, Y = 0 >)$$

1.2. Computación para la entrada $X = 1$

$$(1, < X = 1, Z = 0, Y = 0 >) \sim (3, < X = 1, Z = 0, Y = 0 >) \sim (4, < X = 0, Z = 0, Y = 0 >) \sim$$
$$(5, < X = 0, Z = 0, Y = 1 >) \sim (6, < X = 0, Z = 1, Y = 1 >) \sim (1, < X = 0, Z = 1, Y = 1 >) \sim$$
$$(2, < X = 0, Z = 1, Y = 1 >) \sim (7, < X = 0, Z = 1, Y = 1 >) \sim (9, < X = 0, Z = 1, Y = 1 >) \sim$$
$$(10, < X = 0, Z = 0, Y = 1 >) \sim (11, < X = 1, Z = 0, Y = 1 >) \sim (7, < X = 1, Z = 0, Y = 1 >) \sim$$
$$(8, < X = 1, Z = 0, Y = 1 >) \sim (12, < X = 1, Z = 0, Y = 1 >)$$

1.3. Computación para la entrada $X = 2$

$$(1, < X = 2, Z = 0, Y = 0 >) \sim (3, < X = 2, Z = 0, Y = 0 >) \sim (4, < X = 1, Z = 0, Y = 0 >) \sim$$
$$(5, < X = 1, Z = 0, Y = 1 >) \sim (6, < X = 1, Z = 1, Y = 1 >) \sim (1, < X = 1, Z = 1, Y = 1 >) \sim$$
$$(3, < X = 1, Z = 1, Y = 1 >) \sim (4, < X = 0, Z = 1, Y = 1 >) \sim (5, < X = 0, Z = 1, Y = 2 >) \sim$$
$$(6, < X = 0, Z = 2, Y = 2 >) \sim (1, < X = 0, Z = 2, Y = 2 >) \sim (2, < X = 0, Z = 2, Y = 2 >) \sim$$
$$(7, < X = 0, Z = 2, Y = 2 >) \sim (9, < X = 0, Z = 2, Y = 2 >) \sim (10, < X = 0, Z = 1, Y = 2 >) \sim$$
$$(11, < X = 1, Z = 1, Y = 2 >) \sim (7, < X = 1, Z = 1, Y = 2 >) \sim (9, < X = 1, Z = 1, Y = 2 >) \sim$$
$$(10, < X = 1, Z = 0, Y = 2 >) \sim (11, < X = 2, Z = 0, Y = 2 >) \sim (7, < X = 2, Z = 0, Y = 2 >) \sim$$
$$(8, < X = 2, Z = 0, Y = 2 >) \sim (12, < X = 2, Z = 0, Y = 2 >)$$

1.4. Computación para la entrada $X = 3$

$$(1, < X = 3, Z = 0, Y = 0 >) \sim (3, < X = 3, Z = 0, Y = 0 >) \sim (4, < X = 2, Z = 0, Y = 0 >) \sim$$
$$(5, < X = 2, Z = 0, Y = 1 >) \sim (6, < X = 2, Z = 1, Y = 1 >) \sim (1, < X = 2, Z = 1, Y = 1 >) \sim$$
$$(3, < X = 2, Z = 1, Y = 1 >) \sim (4, < X = 1, Z = 1, Y = 1 >) \sim (5, < X = 1, Z = 1, Y = 2 >) \sim$$
$$(6, < X = 1, Z = 2, Y = 2 >) \sim (1, < X = 1, Z = 2, Y = 2 >) \sim (3, < X = 1, Z = 2, Y = 2 >) \sim$$
$$(4, < X = 0, Z = 2, Y = 2 >) \sim (5, < X = 0, Z = 2, Y = 3 >) \sim (6, < X = 0, Z = 3, Y = 3 >) \sim$$
$$(1, < X = 0, Z = 3, Y = 3 >) \sim (2, < X = 0, Z = 3, Y = 3 >) \sim (7, < X = 0, Z = 3, Y = 3 >) \sim$$
$$(9, < X = 0, Z = 3, Y = 3 >) \sim (10, < X = 0, Z = 2, Y = 3 >) \sim (11, < X = 1, Z = 2, Y = 3 >) \sim$$
$$(7, < X = 1, Z = 2, Y = 3 >) \sim (9, < X = 1, Z = 2, Y = 3 >) \sim (10, < X = 1, Z = 1, Y = 3 >) \sim$$
$$(11, < X = 2, Z = 1, Y = 3 >) \sim (7, < X = 2, Z = 1, Y = 3 >) \sim (9, < X = 2, Z = 1, Y = 3 >) \sim$$
$$(10, < X = 2, Z = 0, Y = 3 >) \sim (11, < X = 3, Z = 0, Y = 3 >) \sim (7, < X = 3, Z = 0, Y = 3 >) \sim$$
$$(8, < X = 3, Z = 0, Y = 3 >) \sim (12, < X = 3, Z = 0, Y = 3 >)$$

2. Función Suma

2.1. Computación para la entrada $X_1 = 0, X_2 = 0$

$$(1, < X_1 = 0, X_2 = 0, Z = 0, Y = 0 >) \sim (2, < X_1 = 0, X_2 = 0, Z = 0, Y = 0 >) \sim$$
$$(3, < X_1 = 0, X_2 = 0, Z = 0, Y = 0 >) \sim (4, < X_1 = 0, X_2 = 0, Z = 0, Y = 0 >) \sim$$
$$(8, < X_1 = 0, X_2 = 0, Z = 0, Y = 0 >)$$

2.2. Computación para la entrada $X_1 = 1, X_2 = 0$

$$(1, < X_1 = 1, X_2 = 0, Z = 0, Y = 0 >) \sim (2, < X_1 = 1, X_2 = 0, Z = 0, Y = 1 >) \sim$$
$$(3, < X_1 = 1, X_2 = 0, Z = 0, Y = 1 >) \sim (4, < X_1 = 1, X_2 = 0, Z = 0, Y = 1 >) \sim$$
$$(8, < X_1 = 1, X_2 = 0, Z = 0, Y = 1 >)$$

2.3. Computación para la entrada $X_1 = 1, X_2 = 1$

$$(1, < X_1 = 1, X_2 = 1, Z = 0, Y = 0 >) \sim (2, < X_1 = 1, X_2 = 1, Z = 0, Y = 1 >) \sim$$
$$(3, < X_1 = 1, X_2 = 1, Z = 1, Y = 1 >) \sim (5, < X_1 = 1, X_2 = 1, Z = 1, Y = 1 >) \sim$$
$$(6, < X_1 = 1, X_2 = 1, Z = 0, Y = 1 >) \sim (7, < X_1 = 1, X_2 = 1, Z = 0, Y = 2 >) \sim$$
$$(3, < X_1 = 1, X_2 = 1, Z = 0, Y = 2 >) \sim (4, < X_1 = 1, X_2 = 1, Z = 0, Y = 2 >) \sim$$
$$(8, < X_1 = 1, X_2 = 1, Z = 0, Y = 2 >)$$

2.4. Computación para la entrada $X_1 = 3, X_2 = 0$

$$(1, < X_1 = 3, X_2 = 0, Z = 0, Y = 0 >) \sim (2, < X_1 = 3, X_2 = 0, Z = 0, Y = 3 >) \sim$$
$$(3, < X_1 = 3, X_2 = 0, Z = 0, Y = 3 >) \sim (4, < X_1 = 3, X_2 = 0, Z = 0, Y = 3 >) \sim$$
$$(8, < X_1 = 3, X_2 = 0, Z = 0, Y = 3 >)$$

3. Función Resta Restringida

3.1. Computación para la entrada $X_1 = 0, X_2 = 0$

$$(1, < X_1 = 0, X_2 = 0, Z = 0, Y = 0 >) \sim (2, < X_1 = 0, X_2 = 0, Z = 0, Y = 0 >) \sim$$
$$(3, < X_1 = 0, X_2 = 0, Z = 0, Y = 0 >) \sim (4, < X_1 = 0, X_2 = 0, Z = 0, Y = 0 >) \sim$$
$$(10, < X_1 = 0, X_2 = 0, Z = 0, Y = 0 >)$$

3.2. Computación para la entrada $X_1 = 1, X_2 = 0$

$$(1, < X_1 = 1, X_2 = 0, Z = 0, Y = 0 >) \sim (2, < X_1 = 1, X_2 = 0, Z = 0, Y = 1 >) \sim$$
$$(3, < X_1 = 1, X_2 = 0, Z = 0, Y = 1 >) \sim (4, < X_1 = 1, X_2 = 0, Z = 0, Y = 1 >) \sim$$
$$(10, < X_1 = 1, X_2 = 0, Z = 0, Y = 1 >)$$

3.3. Computación para la entrada $X_1 = 1, X_2 = 1$

$$(1, < X_1 = 1, X_2 = 1, Z = 0, Y = 0 >) \sim (2, < X_1 = 1, X_2 = 1, Z = 0, Y = 1 >) \sim$$
$$(3, < X_1 = 1, X_2 = 1, Z = 1, Y = 1 >) \sim (5, < X_1 = 1, X_2 = 1, Z = 1, Y = 1 >) \sim$$
$$(7, < X_1 = 1, X_2 = 1, Z = 1, Y = 1 >) \sim (8, < X_1 = 1, X_2 = 1, Z = 1, Y = 0 >) \sim$$
$$(9, < X_1 = 1, X_2 = 1, Z = 0, Y = 0 >) \sim (3, < X_1 = 1, X_2 = 1, Z = 0, Y = 0 >) \sim$$
$$(4, < X_1 = 1, X_2 = 1, Z = 0, Y = 0 >) \sim (10, < X_1 = 1, X_2 = 1, Z = 0, Y = 0 >)$$

3.4. Computación para la entrada $X_1 = 3, X_2 = 1$

$$(1, < X_1 = 3, X_2 = 1, Z = 0, Y = 0 >) \sim (2, < X_1 = 3, X_2 = 1, Z = 0, Y = 3 >) \sim$$
$$(3, < X_1 = 3, X_2 = 1, Z = 1, Y = 3 >) \sim (5, < X_1 = 3, X_2 = 1, Z = 1, Y = 1 >) \sim$$
$$(7, < X_1 = 3, X_2 = 1, Z = 1, Y = 1 >) \sim (8, < X_1 = 3, X_2 = 1, Z = 1, Y = 2 >) \sim$$
$$(9, < X_1 = 3, X_2 = 1, Z = 0, Y = 2 >) \sim (3, < X_1 = 3, X_2 = 1, Z = 0, Y = 2 >) \sim$$
$$(4, < X_1 = 3, X_2 = 1, Z = 0, Y = 2 >) \sim (10, < X_1 = 3, X_2 = 1, Z = 0, Y = 2 >)$$

4. Función Producto

4.1. Computación para la entrada $X_1 = 0, X_2 = 0$

$$(1, < X_1 = 0, X_2 = 0, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim (2, < X_1 = 0, X_2 = 0, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim$$
$$(3, < X_1 = 0, X_2 = 0, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim (8, < X_1 = 0, X_2 = 0, Z_1 = 0, Z_2 = 0, Y = 0 >)$$

4.2. Computación para la entrada $X_1 = 1, X_2 = 0$

$$(1, < X_1 = 1, X_2 = 0, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim (2, < X_1 = 1, X_2 = 0, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim$$
$$(3, < X_1 = 1, X_2 = 0, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim (8, < X_1 = 1, X_2 = 0, Z_1 = 0, Z_2 = 0, Y = 0 >)$$

4.3. Computación para la entrada $X_1 = 1, X_2 = 1$

$$(1, < X_1 = 1, X_2 = 1, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim (2, < X_1 = 1, X_2 = 1, Z_1 = 0, Z_2 = 1, Y = 0 >) \sim$$
$$(4, < X_1 = 1, X_2 = 1, Z_1 = 0, Z_2 = 1, Y = 0 >) \sim (5, < X_1 = 1, X_2 = 1, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim$$
$$(6, < X_1 = 1, X_2 = 1, Z_1 = 1, Z_2 = 0, Y = 0 >) \sim (7, < X_1 = 1, X_2 = 1, Z_1 = 1, Z_2 = 0, Y = 1 >) \sim$$
$$(2, < X_1 = 1, X_2 = 1, Z_1 = 1, Z_2 = 0, Y = 1 >) \sim (3, < X_1 = 1, X_2 = 1, Z_1 = 1, Z_2 = 0, Y = 1 >) \sim$$
$$(8, < X_1 = 1, X_2 = 1, Z_1 = 1, Z_2 = 0, Y = 1 >)$$

4.4. Computación para la entrada $X_1 = 0, X_2 = 1$

$$(1, < X_1 = 0, X_2 = 1, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim (2, < X_1 = 0, X_2 = 1, Z_1 = 0, Z_2 = 1, Y = 0 >) \sim$$
$$(4, < X_1 = 0, X_2 = 1, Z_1 = 0, Z_2 = 1, Y = 0 >) \sim (5, < X_1 = 0, X_2 = 1, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim$$
$$(6, < X_1 = 0, X_2 = 1, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim (7, < X_1 = 0, X_2 = 1, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim$$
$$(2, < X_1 = 0, X_2 = 1, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim (3, < X_1 = 0, X_2 = 1, Z_1 = 0, Z_2 = 0, Y = 0 >) \sim$$
$$(8, < X_1 = 0, X_2 = 1, Z_1 = 0, Z_2 = 0, Y = 0 >)$$