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8.

a)

El tamaño de la página virtual es de 4096 KiB, lo que significa que el desplazamiento son 12 bits. Si la dirección virtual es de 64 bits, nos queda una dirección virtual tal que.

|  |  |
| --- | --- |
| NPV | Desplazamiento |
| 52 | 12 |

Las direcciones físicas son iguales.

|  |  |
| --- | --- |
| NPF | Deplazamiento |
| 52 | 12 |

Para calcular el tamaño de la tabla de página hacemos lo siguiente:

Calculamos el número máximo de marcos físicos a partir del número de página virtual, . Si usamos palabras de 64 bits (o lo que es lo mismo, 8 bytes), la tabla de páginas será de la siguiente manera.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indice | PID | PV | MF | Sig |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Los campos PID y PV son necesarios para la implementación de una tabla de páginas invertidas, ya que necesitamos saber a qué proceso está asociado y a qué página virtual hace referencia. El tamaño sería

La tabla de dispersión sería de la siguiente manera.

|  |  |
| --- | --- |
| I | Ptr |
| 0 | - |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |

b)

La función hash es

1. 768 0x0000000000004A44

Aplicamos la función hash

|  |  |
| --- | --- |
| I | Ptr |
| 0 | - |
| 1 | - |
| 2 | 0 |
| 3 | - |
| 4 |  |
| 5 |  |
| … |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indice | PID | PV | MF | Sig |
| 0 | 768 |  | 0 | - |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. 1024 0x2560034211077540

|  |  |
| --- | --- |
| I | Ptr |
| 0 | - |
| 1 | - |
| 2 | 0 |
| 3 | - |
| 4 |  |
| 5 | 1 |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indice | PID | PV | MF | Sig |
| 0 | 768 |  | 0 | - |
| 1 | 1024 |  | 2 | - |
|  |  |  |  |  |
|  |  |  |  |  |

1. 1024 0x0000000000004880

|  |  |
| --- | --- |
| I | Ptr |
| 0 | 2 |
| 1 | - |
| 2 | 0 |
| 3 | - |
| 4 |  |
| 5 | 1 |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indice | PID | PV | MF | Sig |
| 0 | 768 |  | 0 | - |
| 1 | 1024 |  | 2 | - |
| 2 | 1024 |  | 3 | - |
|  |  |  |  |  |

1. 768 0x0000000000004010

|  |  |
| --- | --- |
| I | Ptr |
| 0 | 3 |
| 1 | - |
| 2 | 0 |
| 3 | - |
| 4 |  |
| 5 | 1 |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indice | PID | PV | MF | Sig |
| 0 | 768 |  | 0 | - |
| 1 | 1024 |  | 2 | - |
| 2 | 1024 |  | 3 | - |
| 3 | 768 |  | 1 | 2 |

1. 1024 0xFDA75BBF47FF07F0

|  |  |
| --- | --- |
| I | Ptr |
| 0 | 3 |
| 1 | - |
| 2 | 0 |
| 3 | - |
| 4 |  |
| 5 | - |
| 6 |  |
| 7 | 1 |
| 8 |  |
| 9 |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indice | PID | PV | MF | Sig |
| 0 | 768 |  | 0 | - |
| 1 | 1024 |  | 2 | - |
| 2 | 1024 |  | 3 | - |
| 3 | 768 |  | 1 | 2 |

1. 768 0x010000000101D721

|  |  |
| --- | --- |
| I | Ptr |
| 0 | 3 |
| 1 | - |
| 2 | - |
| 3 | - |
| 4 |  |
| 5 | - |
| 6 |  |
| 7 | 0 |
| 8 |  |
| 9 |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indice | PID | PV | MF | Sig |
| 0 | 768 |  | 0 | 1 |
| 1 | 1024 |  | 2 | - |
| 2 | 1024 |  | 3 | - |
| 3 | 768 |  | 1 | 2 |