**int a[ ] = {100 , 20 , 3 , 400 , 50 , 6 , 700 , 80 , 9 };**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| اعضای آرایه | a[0] | a[1] | a[2] | a[3] | a[4] | a[5] | a[6] | a[7] | a[8] |
| مقدار | 100 | 20 | 3 | 400 | 50 | 6 | 700 | 80 | 9 |
| آدرس | 100 | 104 | 108 | 112 | 116 | 120 | 124 | 128 | 132 |

**p1 = a;**

**p2 = &a[3];**

|  |  |  |
| --- | --- | --- |
| P2 | P1 | اشاره گر |
| &a[3]=112 | &a[0]=100 | آدرسی که به آن اشاره میکند |
| 400 | 100 | \* |

**a[1] = \* (p1 – 1)+ p2 [3] ;**

(p1-1) = جایی که آدرس آن 96 است === > \*(p1-1) = مقدار خانه ای از حافظه به آدرس 96

P2[3] = a[6] = 700

|  |  |  |
| --- | --- | --- |
| P2 | P1 | اشاره گر |
| &a[3]=112 | &a[0]=100 | آدرسی که به آن اشاره میکند |
| 400 | 100 | \* |

a[1] = ???? + 700 === > پس معلوم نیست که چه مقداری دارد

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| اعضای آرایه | a[0] | a[1] | a[2] | a[3] | a[4] | a[5] | a[6] | a[7] | a[8] |
| مقدار | 100 | ??? | 3 | 400 | 50 | 6 | 700 | 80 | 9 |
| آدرس | 100 | 104 | 108 | 112 | 116 | 120 | 124 | 128 | 132 |

**a[2] = \*(p1 + 1) / (\*p2 + 3);**

(p1 + 1) = جایی که آدرس آن104 است = &a[1] === > \* (p1 + 1) = ???

(\*p2 + 3) = a[3] + 3 = 400 + 3 = 403

\*(p1 + 1) / (\*p2 + 3) = عدد صحیح برمیگرداند ولی ما مقدارش را نمیدانیم

|  |  |  |
| --- | --- | --- |
| P2 | P1 | اشاره گر |
| &a[3]=112 | &a[0]=100 | آدرسی که به آن اشاره میکند |
| 400 | 100 | \* |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| اعضای آرایه | a[0] | a[1] | a[2] | a[3] | a[4] | a[5] | a[6] | a[7] | a[8] |
| مقدار | 100 | ??? | ??? | 400 | 50 | 6 | 700 | 80 | 9 |
| آدرس | 100 | 104 | 108 | 112 | 116 | 120 | 124 | 128 | 132 |

a[2] = ???

**p2 += 2;**

p2 = p2 + 2 = 112 + 8 = 120 === >است جایی که آدرس آن 120

|  |  |  |
| --- | --- | --- |
| P2 | P1 | اشاره گر |
| &a[5]=120 | &a[0]=100 | آدرسی که به آن اشاره میکند |
| 6 | 100 | \* |

**\*p2 = 5;**

a[5] = 5

|  |  |  |
| --- | --- | --- |
| P2 | P1 | اشاره گر |
| &a[5]=120 | &a[0]=100 | آدرسی که به آن اشاره میکند |
| 5 | 100 | \* |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| اعضای آرایه | a[0] | a[1] | a[2] | a[3] | a[4] | a[5] | a[6] | a[7] | a[8] |
| مقدار | 100 | ??? | ??? | 400 | 50 | 5 | 700 | 80 | 9 |
| آدرس | 100 | 104 | 108 | 112 | 116 | 120 | 124 | 128 | 132 |

**a[3] = a[0] + \*p1;**

a[3] = 100 + 100 = 200

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| اعضای آرایه | a[0] | a[1] | a[2] | a[3] | a[4] | a[5] | a[6] | a[7] | a[8] |
| مقدار | 100 | ??? | ??? | 200 | 50 | 5 | 700 | 80 | 9 |
| آدرس | 100 | 104 | 108 | 112 | 116 | 120 | 124 | 128 | 132 |

**for( ; p2 – p1 >= 1 ; p1++) { printf("%d \n", \* p2 + \*(p1 - 1) ); }**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| اعضای آرایه | a[0] | a[1] | a[2] | a[3] | a[4] | a[5] | a[6] | a[7] | a[8] |
| مقدار | 100 | ??? | ??? | 200 | 50 | 5 | 700 | 80 | 9 |
| آدرس | 100 | 104 | 108 | 112 | 116 | 120 | 124 | 128 | 132 |

وضعیت ابتدایی:

|  |  |  |
| --- | --- | --- |
| P2 | P1 | اشاره گر |
| &a[5]=120 | &a[0]=100 | آدرسی که به آن اشاره میکند |
| 5 | 100 | \* |

مرحله اول:

= 5 + ??? = ???

حالا:

|  |  |  |
| --- | --- | --- |
| P2 | P1 | اشاره گر |
| &a[5]=120 | &a[1]=104 | آدرسی که به آن اشاره میکند |
| 5 | ??? | \* |

مرحله دوم:

= 5 + 100 = 105

حالا:

|  |  |  |
| --- | --- | --- |
| P2 | P1 | اشاره گر |
| &a[5]=120 | &a[2]=108 | آدرسی که به آن اشاره میکند |
| 5 | ??? | \* |

مرحله سوم:

= 5 + ??? = ???

حالا:

|  |  |  |
| --- | --- | --- |
| P2 | P1 | اشاره گر |
| &a[5]=120 | &a[3]=112 | آدرسی که به آن اشاره میکند |
| 5 | 200 | \* |

مرحله چهارم:

= 5 + ??? = ???

حالا:

|  |  |  |
| --- | --- | --- |
| P2 | P1 | اشاره گر |
| &a[5]=120 | &a[4]=116 | آدرسی که به آن اشاره میکند |
| 5 | 50 | \* |

مرحله پنجم:

= 5 + 200 = 205

حالا:

|  |  |  |
| --- | --- | --- |
| P2 | P1 | اشاره گر |
| &a[5]=120 | &a[5]=120 | آدرسی که به آن اشاره میکند |
| 5 | 6 | \* |

اینجا از حلقه میاد بیرون...

و کار تمام شد..