|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Main ( N=6) | | | | | | | | | | | | Changes to a | | | | | | | | | | |
| A[0] | | A[1] | | A[2] | | A[3] | | A[4] | | A[5] | |  | | | | | | | | | | |
| 1 | | 7 | | 9 | | 10 | | 2 | | 8 | |  | | | | | | | | | | |
| func(a, 0, 5) | | | | | | | | | | | |  | | | | | | | | | | |
| A | Left | | Right | | I | | J | | V | | T |  | | | | | | | | | | |
|  | 0 | | 5 | |  | |  | |  | |  |  | | | | | | | | | | |
|  |  | |  | | 0 | | 5 | | 8 | |  |  | | | | | | | | | | |
|  |  | |  | | 1 | |  | |  | |  |  | | | | | | | | | | |
|  |  | |  | | 2 | |  | |  | |  |  | | | | | | | | | | |
| swap(9,8) | | | | | | | | | | | |  | | | | | | | | | | |
|  |  | |  | |  | |  | |  | |  | A[0] | A[1] | | A[2] | | A[3] | | | A[4] | | A[5] |
|  |  | |  | |  | |  | |  | |  | 1 | 7 | | 8 | | 10 | | | 2 | | 9 |
|  |  | |  | |  | | 4 | |  | |  |  | | | | | | | | | | |
| swap(8,2) | | | | | | | | | | | |  | | | | | | | | | | |
|  |  | |  | |  | |  | |  | |  | A[0] | A[1] | | A[2] | | A[3] | | | A[4] | | A[5] |
|  |  | |  | |  | |  | |  | |  | 1 | 7 | | 2 | | 10 | | | 8 | | 9 |
|  |  | |  | | 3 | |  | |  | |  |  | | | | | | | | | | |
| swap(10,8) | | | | | | | | | | | |  | | | | | | | | | | |
|  |  | |  | |  | |  | |  | |  | A[0] | | A[1] | | A[2] | | A[3] | A[4] | | A[5] | |
|  |  | |  | |  | |  | |  | |  | 1 | | 7 | | 2 | | 8 | 10 | | 9 | |
|  |  | |  | |  | | 3 | |  | |  |  | | | | | | | | | | |
| func(a, 3, 5) | | | | | | | | | | | |  | | | | | | | | | | |
| A | Left | | Right | | I | | J | | V | | T |  | | | | | | | | | | |
|  | 3 | | 5 | |  | |  | |  | |  |  | | | | | | | | | | |
|  |  | |  | | 3 | | 5 | | 9 | |  |  | | | | | | | | | | |
|  |  | |  | | 4 | |  | |  | |  |  | | | | | | | | | | |
| swap(10,9) | | | | | | | | | | | |  | | | | | | | | | | |
|  |  | |  | |  | |  | |  | |  | A[0] | | A[1] | | A[2] | | A[3] | A[4] | | A[5] | |
|  |  | |  | |  | |  | |  | |  | 1 | | 7 | | 2 | | 8 | 9 | | 10 | |
|  |  | |  | |  | | 4 | |  | |  |  | | | | | | | | | | |
| func(a, 3, 3) | | | | | | | | | | | |  | | | | | | | | | | |
| A | Left | | Right | | I | | J | | V | | T |  | | | | | | | | | | |
|  | 3 | | 3 | |  | |  | |  | |  |  | | | | | | | | | | |
|  | | | | | | | | | | | |  | | | | | | | | | | |
|  | | | | | | | | | | | |  | | | | | | | | | | |
| main | | | | | | | | | | | | print | | | | | | | | | | |
| i | N | |  | |  | |  | |  | |  | 8\n | | | | | | | | | | |
| 0 | 6 | |  | |  | |  | |  | |  | 1 | | | | | | | | | | |
| 1 |  | |  | |  | |  | |  | |  | 7 | | | | | | | | | | |
| 2 |  | |  | |  | |  | |  | |  | 2 | | | | | | | | | | |
| 3 |  | |  | |  | |  | |  | |  | \n | | | | | | | | | | |
|  |  | |  | |  | |  | |  | |  | 8 | | | | | | | | | | |
| 4 |  | |  | |  | |  | |  | |  | 9 | | | | | | | | | | |
| 5 |  | |  | |  | |  | |  | |  | 10 | | | | | | | | | | |

Print

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הפונקציה מסדרת את המערך בצורה שכל המספרים הקטנים יהיו בצד שמאל והגדולים בימין

מדפיסה את המספר הראשון מהצד של הגדולים יורדת שורה מדפיסה את המספרים הקטנים יורדת שורה ומדפיסה את המספרים הגדולים

#define N 6

#define swap(p,q) t=p;p=q;q=t;

void func(int a[], int left, int right)

{

int i, j;

int v, t;

if (right - left > 1)

{

v = a[right];

i = left; j = right;

for (;;)//alway get inside.has to include break

{

while (a[i] <= v)

if (i != j)i++;

else break;

if (i < j) { swap(a[i], a[j]) }

else break;

while (a[j] > v) j--;

if (i < j) { swap(a[i], a[j]) }

else break;

}

if (i >(N / 2))

func(a, left, i - 1);

else

func(a, i, right);

}

}

int main()

{

int i;

int a[N] = { 6,3,7,2,1,4 };

func(a, 0, N - 1);

printf("%d\n", a[N / 2]);

for (i = 0; i < (N / 2); i++)

printf("%d", a[i]);

printf("\n");

for (; i < N; i++)

printf("%d", a[i]);

printf("\n");

return 0;

}