/\*

TASK:frogs

LANG:C

\*/

#define PROG 1

#if PROG

#include

#define inf 2000000000

int h[1000010], j[1000010], s[1000010];

int main()

{

// freopen("input.txt", "r", stdin);

// freopen("output.txt", "w", stdout);

int n, m, p, q, k, i;

scanf("%d", &n);

for (i = n-1; i >= 0; i--)

scanf("%d", h+i);

for (i = n-1; i >= 0; i--)

scanf("%d", j+i);

m = k = 1;

s[0] = h[0];

for (i = 1; i < n; i++)

{

if(h[i] >= s[0])

{

k = 0;

s[0] = h[i];

}

else

{

p = 0;

q = k;

while (q-p > 1)

{

k = (p+q)>>1;

if (h[i] == s[k])

break;

if (h[i] < s[k])

p = k;

else

q = k;

}

if (q-p <= 1)

if (s[p] <= h[i])

k = p;

else

if (s[q] <= h[i])

k = q;

else

k = q+1;

s[k] = h[i];

}

if (m < k+1)

m = k+1;

if (k < j[i])

j[i] = -1;

else

j[i] = s[k-j[i]];

}

for (i = n-1; i > 0; i--)

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

printf("-1\n");

return 0;

}

#endif

#if !PROG

#include

#include

#include

#define inf 2000000000

int h[1000010], j[1000010];

int main()

{

FILE\* fin = fopen("input.txt", "w");

FILE\* fout = fopen("test.txt", "w");

int n, p, k, i;

scanf("%d", &n);

fprintf(fin, "%d\n", n);

srand(time(0));

for (i = 0; i < n; i++)

{

h[i] = rand();

fprintf(fin, "%d ", h[i]);

j[i] = 1+rand()%100;

}

fputc('\n', fin);

for (i = 0; i < n; i++)

fprintf(fin, "%d ", j[i]);

fputc('\n', fin);

/\* h[n] = inf;

for (i = 0; i < n-1; i++)

{

p = i;

for (k = i+1; k <= n && j[i]; k++)

if (h[k] > h[p])

{

j[i]--;

p = k;

}

if (k == n+1)

fprintf(fout, "-1 ");

else

fprintf(fout, "%d ", h[p]);

}

fprintf(fout, "-1\n");\*/

return 0;

}

#endif