

$K =$

	0	1	2	3	4	5	6	7	8
0	1	0	0	0	0	0	0	0	0
1	0	17.368	-10.658	0	0	0	0	0	0
2	0	-10.658	17.368	-10.658	0	0	0	0	0
3	0	0	-10.658	17.368	-10.658	0	0	0	0
4	0	0	0	-10.658	17.368	-10.658	0	0	0
5	0	0	0	0	-10.658	17.368	-10.658	0	0
6	0	0	0	0	0	-10.658	17.368	-10.658	0
7	0	0	0	0	0	0	-10.658	17.368	-10.658
8	0	0	0	0	0	0	0	-10.658	17.368
9	0	0	0	0	0	0	0	0	-10.658
10	0	0	0	0	0	0	0	0	0

$$K_{N,N} = 8.684 + 6.283i$$

Initialize the Right-hand-Side

$b :=$

for $i \in 0..N$
$tmp_i \leftarrow 0$
$tmp_0 \leftarrow E_0$
$tmp_1 \leftarrow -K_{local_{1,0}} \cdot E_0$
tmp

$b =$

	0
0	1
1	10.658
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0

Compute the Solution:

$$c := K^{-1} \cdot b$$

$c =$

	0
0	1
1	0.817-0.589i
2	0.331-0.96i
3	-0.277-0.976i
4	-0.783-0.63i
5	-0.999-0.05i
6	-0.844+0.548i
7	-0.377+0.943i
8	0.23+0.989i
9	0.751+0.668i
10	0.995+0.1i

Plot the Solution versus the Exact:

$$E_{\text{exact}}(x) := E_0 \cdot \exp(-j \cdot k_0 \cdot x)$$

```

Ezex := | for i ∈ 0..N
        |   x ← i · L / N
        |   tmp_i ← Eexact(x)
        | tmp
xx := | for i ∈ 0..N
      |   tmp_i ← i · L / N
      | tmp

```

ii := 0..N



