```
directorio = Directory[]
```
directorio

```
ftest[z_] = Piecewise[{{1, 0 ≥ Re[z]}, {0, Re[z] ≤ 0}}]
```
función a trozos · parte real · parte real

```
Attributes[ftest] = {Listable}
```
atributos · listable

```
(* szego.wls obtains the system of arcs
 related with the root of a paraothogonal
 polynomial  and write it as arcosalpha *)

n = 100; T = 2 * Pi;
```
número pi

```
(*  Choice the Model

 Get["Dropbox/articulo2023/cardan.wls"]
```
recibe

```
 Get["Dropbox/articulo2023/kepler.wls"]
```
recibe

```
 Get["Dropbox/articulo2023/random.wls"]
```
recibe

```
*)
Get["Dropbox/articulo2023/szego.wls"]
```
recibe

```
(* arcos.wls obtains all the system of
 arcs related with arcosalpha in the sense of
 the paper and the related nodal systems *)
Get["Dropbox/atypeofinterpolation2023/arcos.wls"]
```
recibe

```
(* derivadas.wls obtains the derivatives
 used in the paper for a nodal system in T *)
listaalpha = alphaW2n;
listaarcosalpha = arcosalphaW2n;
Get["Dropbox/atypeofinterpolation2023/derivadas.wls"];
```
recibe

```
derivadasalphaW2n = derivadas;
derivadassegundasalphaW2n =
  derivadas * factoresderivadassegundas;

(* same comment as before *)
```

```
listaalpha = alphaYn;
listaarcosalpha = arcosalphaYn;
Get["Dropbox/atypeofinterpolation2023/derivadas.wls"];
recibe

derivadasalphaYn = derivadas;
derivadassegundasalphaYn =
  derivadas * factoresderivadassegundas;



(* same comment as before *)
listaalpha = alphaZn;
listaarcosalpha = arcosalphaZn;
Get["Dropbox/atypeofinterpolation2023/derivadas.wls"];
recibe
derivadasalphaZn = derivadas;
derivadassegundasalphaZn =
  derivadas * factoresderivadassegundas;

(* u and v in the sense of the paper *)
u = ftest[alphaW2n];

(* semi Hermite and semi Hermite-
 Fejer interpolants using the barycentric formulae*)
Print[1000]
escribe
SHFejer[z_] =
  (Sum[(alphapwp[[2 k]] * derivadasalphaZn[[k]] * u[[2 k]])/
      ((z - alphaW2n[[2 k]]) (derivadasalphaW2n[[2 k]])^2) +
     (alphapwp[[2 k - 1]] /
        ((z - alphaW2n[[2 k - 1]]) derivadasalphaW2n[[2 k - 1]] *
          derivadasalphaYn[[k]])) (1/(z - alphaW2n[[2 k - 1]]) -
        derivadassegundasalphaW2n[[2 k - 1]]/
          (2 derivadasalphaW2n[[2 k - 1]]) -
        (derivadassegundasalphaYn[[k]]/(2 derivadasalphaYn[[k]]) +
           3 n/2) u[[2 k - 1]]), {k, 1, n}])/
   (Sum[(alphapwp[[2 k]] * derivadasalphaZn[[k]])/
      ((z - alphaW2n[[2 k]]) (derivadasalphaW2n[[2 k]])^2) +
     (alphapwp[[2 k - 1]] /
```

```
((z - alphaW2n[[2 k - 1]]) derivadasalphaW2n[[2 k - 1]] ×
  derivadasalphaYn[[k]])) (1/(z - alphaW2n[[2 k - 1]]) -
derivadassegundasalphaW2n[[2 k - 1]]/(2 derivadasalphaW2n[[2 k - 1]]) -
derivadassegundasalphaYn[[k]]/(2 derivadasalphaYn[[k]]) + 3 n/2));
```

```
BB1 = Plot[{Re[SHFejer[E^(I x)]], Re[ftest[E^(I x)]]},
      {x, Pi/2 - Pi/16, Pi/2 + Pi/16}, PlotPoints → 800,
       PlotStyle → {{Red, Thickness[.001]},
         {Black, Thickness[.001]}}, AspectRatio → 5/7]
```

```
CC = Plot[{Re[SHFejer[E^(I x)]], Re[ftest[E^(I x)]]},
     {x, 0, 2 Pi}, PlotPoints → 800,
      PlotStyle → {{Red, Thickness[.001]},
        {Black, Thickness[.001]}}, AspectRatio → 5/7]
```

Out[118]=

```
/Users/eliasberriochoaesnaola
```

Out[119]=

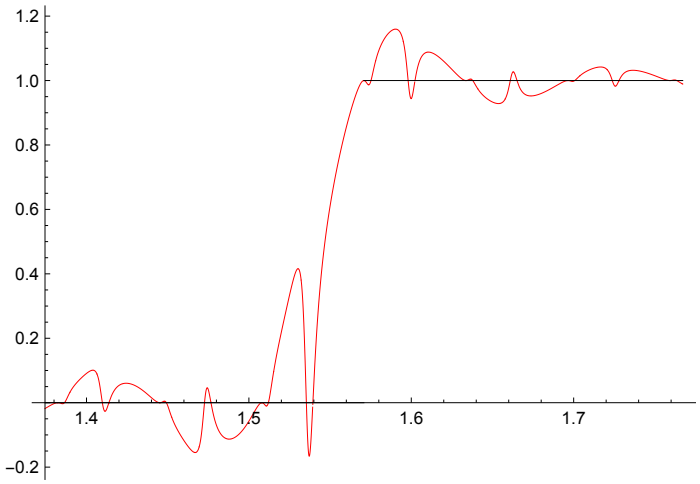
```
{1  0 ≥ Re[z]
 0  True
```

Out[120]=

{Listable}

1000

Out[139]=



Out[140]=