v = f / fsample
W = 2 * pi * v
phi = W - pi/2
z = exp(j*W)

We need G(z) = -j

Try
G(z) = sin(phi) / cos(phi   + 1/cos(phi)   * exp(-j*W)

= sin(W-pi/2)/cos(W-pi/2) + 1/cos(W-pi/2) * [cos(W) + j sin(W)]

1.)

```
   sin(W) * cos(pi/2) - cos(W) * sin(pi/2)                      1
 = ----------------------------------------    + ---------------------------------------          * [cos(W) + j sin(W)]

   cos(W) * cos(pi/2) - sin(W) * sin(pi/2)     cos(W) * cos(pi/2) - sin(W) * sin(pi/2)
```

2.)

```
   0 - cos(W)           1
 = -----------  + ---------------------- *  [cos(W) + j sin(W)]
   0 - sin(W)         0 - sin(W)

   -cos(W)        cos(W)      jsin(W)
 = -------     +  ------     + --------
   -sin(W)        -sin(W)     -sin(W)


 =   0   +  (-j)

 =   -j
```

1.) addition theorem
sin(x-y) = sin(x) * cos(y) - cos(x) * sin(y)
cos(x-y) = cos(x) * cos(y) - sin(x) * sin(y)
2.) cos(pi/2) = 0
sin(pi/2) = 1

so we make a fir filter:
y(k) = a0 * x(k) + a1 * x(k-1)

```
       sin(phi)
a0 =  ------------  =  tan(phi)
       cos(phi)
```

a1 =   1/cos(phi)