```matlab
function plot_wave(k, w)

%%-----------------------------------------------------------------------------
%%  Purpose:
%%
%%      Plot some waves on x-t dommain
%%
%%  Discussion:
%%
%%
%%  Licensing:
%%
%%      This code is distributed under the GNU LGPL license.
%%
%%      2012.06.02
%%
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%%
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%%
%%  Parameters:
%%
%%-----------------------------------------------------------------------------


x = t = linspace(0, 20, 51);
[xx, tt] = meshgrid(x, t);


z = (k*xx-w*tt) ;
mesh(x, t, z);
title(sprintf('(%dx - %dt)', k, w));
xlabel("x : distance");
ylabel("t : time");
eval(sprintf('print -demf fig1.%dx-%dt.emf', k, w));
pause;


z = cos(k*xx-w*tt) ;
mesh(x, t, z);
title(sprintf('cos(%dx - %dt)', k, w));
xlabel("x : distance");
ylabel("t : time");
eval(sprintf('print -demf fig2.cos%dx-%dt.emf', k, w));
pause;


bb = [zeros(26, 51); ones(25, 51)];
z = cos(k*xx-w*tt) .* bb;
mesh(x, t, z);
title(sprintf('cos(%dx - %dt) when t>10', k, w));
xlabel("x : distance");
ylabel("t : time");
eval(sprintf('print -demf fig3.cos%dx-%dt.t>10.emf', k, w));
pause;


bb = [zeros(51, 26) ones(51, 25)];
z = cos(k*xx-w*tt) .* bb;
mesh(x, t, z);
title(sprintf('cos(%dx - %dt) when x>10', k, w));
xlabel("x : distance");
ylabel("t : time");
eval(sprintf('print -demf fig4.cos%dx-%dt.x>10.emf', k, w));
pause;


aa = zeros(51, 51);
aa(26,:) = ones(1, 51);
z1 = cos(k*xx - w*tt) .* aa;
```

```matlab
mesh(x, t, z1);
title(sprintf('(%dx - %dt) when t=10', k, w));
xlabel("x : distance");
ylabel("t : time");
eval(sprintf('print -demf fig5.cos%dx-%dt.t=10.emf', k, w));
pause;


aa = zeros(51, 51);
aa(:, 26) = ones(51, 1);
z1 = cos(k*xx - w*tt) .* aa;
mesh(x, t, z1);
title(sprintf('cos(%dx - %dt) when x=10', k, w));
xlabel("x : distance");
ylabel("t : time");
eval(sprintf('print -demf fig6.cos%dx-%dt.x=10.emf', k, w));
pause;
```