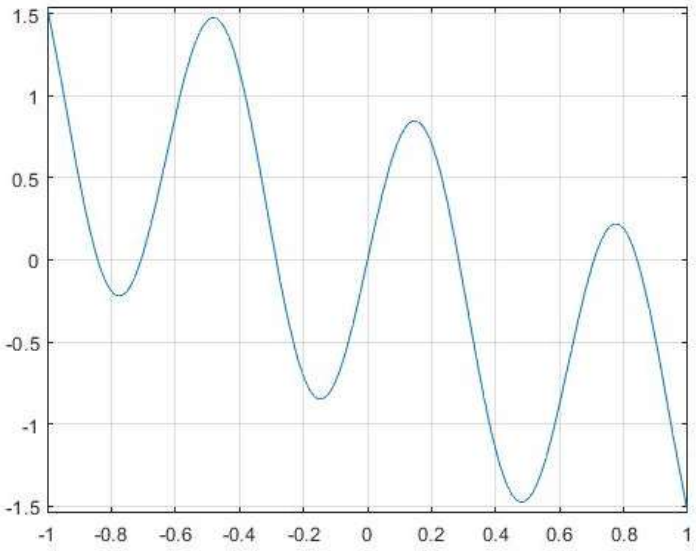
## Exercise 1

```
%% Plots
% plot the function
fplot(@(x) sin(10*x)-x, [-1,1]);
% include the gridlines
ax=gca;
ax.XGrid = 'on';
ax.YGrid = 'on';

%% set initial guess
xk=-0.9;
yk=sin(10*xk)-xk;
xs = [xk];
ys = [yk];
%% get numerical sequence for
%the first root

while yk~=0
  xk1=xk-(yk)/(10*cos(10*xk)-1);
  xk=xk1;
  xs = [xs xk];
  yk = sin(10*xk)-xk;
  ys = [ys yk];
end
```




The result we get is:

xs = -0.9000 -0.8517 -0.8428 -0.8423 -0.8423 -0.8423

ys = 0.4879 0.0639 0.0032 0.0000 0.0000 0