LAB 6

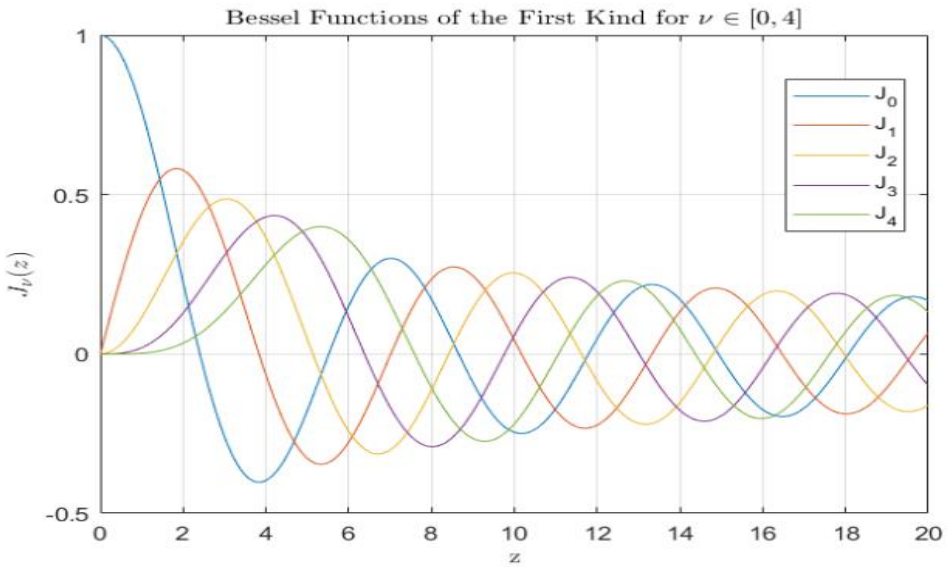
CODE:

```
%plot for besselj and bessely
J = besselj(2, x)
Y = bessely(2, x)
z = 0:0.1:20;
J = zeros(5,201) ;
Y = zeros(5,201) ;

for i = 0:4
J(i+1,:) = besselj(i,z) ;
end
for i = 0:4
Y(i+1,:) = bessely(i,z) ;
end

plot(z,J)
grid on
legend ('J_0','J_1','J_2','J_3','J_4','Location','Best')
title('Bessel Functions of the First Kind for $\nu \in [0,4]$','interpreter','latex')
xlabel('z','interpreter','latex')
ylabel('$J_\nu(z)$','interpreter','latex')
plot(z, Y)
axis([-0.1 20.2 -2 0.6])

grid on
legend('Y_0','Y_1','Y_2','Y_3','Y_4','Location','Best')
title('Bessel Functions of the Second Kind for $\nu \in [0,4]$','interpreter','latex')
xlabel('z','interpreter','latex')
ylabel('$Y_\nu(z)$','interpreter','latex')
```

Output:

J = $J_2(x)$

Y = $Y_2(x)$



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