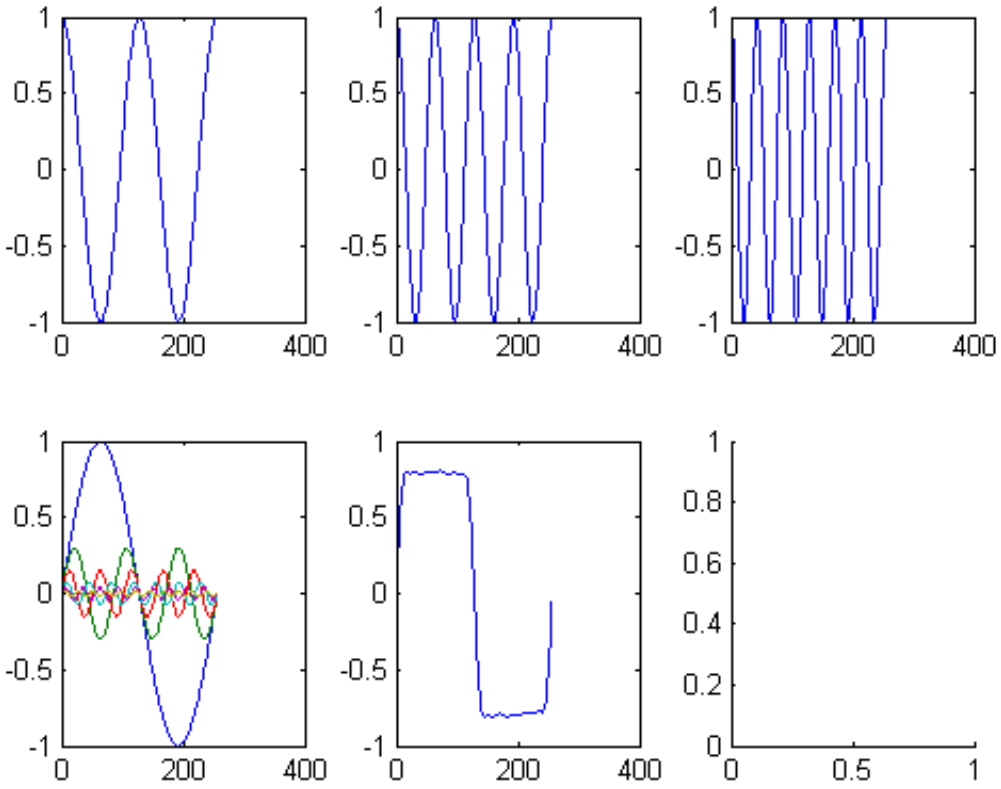
Lab 2 - Synthesis Equation

```
% Task #3 & #4
clc
n = 1:256;
cos_val(n) = cos(2*pi*n/256);

wave2 = cos_val(mod(2*n,257));

wave3 = cos_val(mod(4*n,257));

wave4 = cos_val(mod(6*n,257));

plot(cos_val)
subplot(231)

plot(wave2)
subplot(232)

plot(wave3)
subplot(233)

plot(wave4)
subplot(234)

%Tasks #6,#7,#8

synth_1(n) = 10*cos_val(1+mod(n,256));
synth_2(n) = 0.5*synth_1(1+mod((2*n+64),256));
synth_3(n) = 0.25*synth_1(1+mod((3*n+128),256));

%Task #9

sin_val(n) = sin(2*pi*n/256);

square_1(n) = sin_val(mod(n,257));
square_3(n) = .3*square_1(mod(3*n,257));
square_5(n) = 0.15*square_1(mod(5*n,257));
square_7(n) = 0.075*square_1(mod(7*n,257));
square_9(n) = .0375*square_1(mod(9*n,257));
square_11(n) = 0.01875*square_1(mod(11*n,257));

plot(n,square_1,n,square_3,n,square_5,n,square_7,n,square_9,n,square_11)
subplot(235)

harmonic = square_1 + square_3 + square_5 + square_7 + square_9 + square_11;
plot(n,harmonic)
subplot(236)
```



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