Assignment 3

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Aim: To generate a sine wave and then perform phase modulation over it.

Algorithm:

1. Set carrier signal frequency and amplitude.
2. Set modulated signal frequency and amplitude.
3. Make function for carrier and modulated signal.
4. Superimpose both the waves to generate phase modulated signal.

Code:

Editor - /home/abc/epoc3.m

epoc3.m

```
fs = 8000;
dt = 1/fs;
StopTime = 0.1;
t = (0:dt:StopTime-dt)';
Fm = 20;
Fc = 300;
Am = 10;
Ac = 10;
Kp = 0.8;
Beta = Kp*Am;
Mt = Am*cos(2*pi*Fm*t);
Ct = Ac*sin(2*pi*Fc*t);
St = Ac*sin((2*pi*Fc*t)+Beta*Mt);
subplot(3,1,1), plot (t,Mt), title ('Modulating Signal');
subplot(3,1,2), plot (t,Ct), title ('Carrier Signal');
subplot(3,1,3), plot (t,St), title ('Phase Modulated Signal');
```

Output: