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CPE 2600- Systems Programming Dr. Turney

PA 3

Pseudocode

CPE 2600
PA3 Pseudo Code

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- Add : c1 + c2
- Subtract : c1 − c2
- Magnitude : $|\sqrt{a^2+b^2}|$ => cabs( )
- Phase : arctan($\frac{b}{a}$) => cargs( )
- Rectangular form : mag · (cos(phase) + sin(phase)i)
- Multiply : c1 · c2
- Divide : c1 / c2
- Parallel Impedence : $Z_{eq} = Z1 \cdot Z2 / (Z1 + Z2)$ => (c1 · c2)/(c1 + c2)

Show Program working

```
goetschm@AAD-PF50KM51:~/cpe2600/pa3$ ./complex
x = 3.00 + 4.00i
y = 1.00 + 2.00i
Addition:
x + y = 4.00 + 6.00i
Subtraction:
x - y = 2.00 + 2.00i
Magnitude of x:
|sqrt(real^2 + imag^2)| = 5.00
Phase of x (radians):
atan2(imag, real) = 0.93
Rectangular form from polar:
magnitude * (cos(phase) + sin(phase)i) = 3.00 + 4.00i
Multiplication:
x * y = -5.00 + 10.00i
Division:
x / y = 2.20 + -0.40i
Parallel Impedance: 0.77 + 1.35i
goetschm@AAD-PF50KM51:~/cpe2600/pa3$
```