

Expriment - 6

```
def cocomo_basic(mode, kloc):  
    # Coefficients for different modes  
    coefficients = {  
        'organic': {'a': 2.4, 'b': 1.05, 'c': 2.5, 'd': 0.38},  
        'semi-detached': {'a': 3.0, 'b': 1.12, 'c': 2.5, 'd': 0.35},  
        'embedded': {'a': 3.6, 'b': 1.20, 'c': 2.5, 'd': 0.32}  
    }  
  
    if mode not in coefficients:  
        raise ValueError("Invalid mode! Choose from 'organic', 'semi-detached', or 'embedded'.")  
  
    a = coefficients[mode]['a']  
    b = coefficients[mode]['b']  
    c = coefficients[mode]['c']  
    d = coefficients[mode]['d']  
  
    # Effort in person-months  
    effort = a * (kloc ** b)  
  
    # Time to develop in months  
    time = c * (effort ** d)  
  
    # Number of developers required  
    developers = effort / time  
    return effort, time, developers  
  
def main():
```

```
mode = input("Enter the development mode (organic, semi-detached, embedded):  
").strip().lower()  
  
kloc = float(input("Enter the size of the project in KLOC (thousands of lines of code): "))  
  
effort, time, developers = cocomo_basic(mode, kloc)  
  
print(f"\nCOCOMO Model Results for {kloc} KLOC in {mode.capitalize()} mode:")  
print(f"Effort required: {effort:.2f} person-months")  
print(f"Development time: {time:.2f} months")  
print(f"Number of developers: {developers:.2f}")  
  
main()
```

Output :

```
Enter the development mode (organic, semi-detached, embedded): organic  
Enter the size of the project in KLOC (thousands of lines of code): 6  
  
COCOMO Model Results for 6.0 KLOC in Organic mode:  
Effort required: 15.75 person-months  
Development time: 7.13 months  
Number of developers: 2.21
```