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}")

if \_\_name\_\_ == "\_\_main\_\_":

main()

