**LAB 07**

**Question 07**

def get\_array\_from\_user(size):

arr = []

for i in range(size):

val = float(input(f"Enter element {i+1}: "))

arr.append(val)

return arr

def scalar\_sum(array):

return sum(array)

def vector\_sum(array1, array2):

return [a + b for a, b in zip(array1, array2)]

def vector\_product(array1, array2):

return [a \* b for a, b in zip(array1, array2)]

def scalar\_product(array1, array2):

return sum(a \* b for a, b in zip(array1, array2))

# Get the size of the arrays from the user

size = int(input("Enter the size of the arrays: "))

# Get the elements for the first array

print("Enter elements for the first array:")

array1 = get\_array\_from\_user(size)

# Get the elements for the second array

print("Enter elements for the second array:")

array2 = get\_array\_from\_user(size)

# Calculate Scalar Sum

scalar\_sum\_result = scalar\_sum(array1)

print("Scalar Sum:", scalar\_sum\_result)

# Calculate Vector Sum

vector\_sum\_result = vector\_sum(array1, array2)

print("Vector Sum:", vector\_sum\_result)

# Calculate Vector Product

vector\_product\_result = vector\_product(array1, array2)

print("Vector Product:", vector\_product\_result)

# Calculate Scalar Product

scalar\_product\_result = scalar\_product(array1, array2)

print("Scalar Product:", scalar\_product\_result)

**Question 08**

class Animal:

def animal\_method(self):

print("I am an Animal")

class Dog(Animal):

def dog\_method(self):

print("I have four legs")

def main():

# Create a Dog object

dog\_obj = Dog()

# Call methods from both classes

dog\_obj.animal\_method()

dog\_obj.dog\_method()

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

main()