LAB 07

27295

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()
```