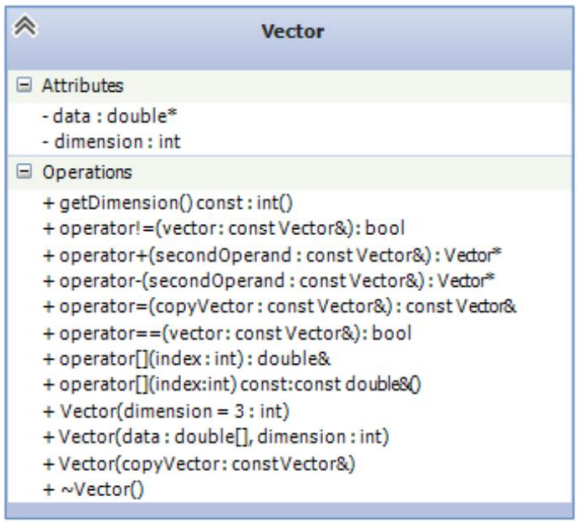
OPERATOR OVERLOAD

Description of the Problem

Implement a Vector class that represents a matematical vector. Look at the UML Diagram and implement required functionailities. Required functions is explained in the UML Diagram section. You are given a non-complete test code. Complete the test code according to the sample output. Test your implementation.

UML Diagram



Members:

- dimension : size of the vector
- data : a double array to keep the raw data

Functions:

- Vector(dimension = 3) : Default parameter constructor
- Vector(data,dimension) : Overloaded constructor with a double array and dimension parameter
- Vector(copyVector) : Copy constructor
- ~Vector() : Destructor. You have to free the data array to handle the memory leak
- getDimension() : Returns the dimension of the vector
- Not equal operator : Returns true if the vectors is not equal
- Equal operator : Returns truee if the vectors is equal
- Assign operator : Copies the vector given in the argument
- Subscription operator : Returns the vector element according to the given index
- Plus and minus operator : Do calculation and return a pointer to a new object that holds the result

Sample Output