Computing Methods for Physics 1

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Hands on lab session 1B, A.Y. 2021-22

Design and implement a C++ class with name `Vector3D` to handle mathematical operations involving vectors in $\mathbb{R}^3$.

- Pick appropriate data members
- Implement constructors of all kinds you think may be of use
- Implement setters
- Implement member functions `magnitude()`, `theta()`, `phi()`, `scalarProduct()`, and `vectorProduct()`
- Implement the function `angle()` to calculate and return the angle between two vectors
- Overload operators `+`, `-`, and `=`
- Overload the operators `*` and `/` so that you can multiply or divide a vector by a float
- Ensure you can handle both spehrical and cartesian coordinate systems

COMMENT YOUR CODE!!! KEEP IN MIND THE BASIC CHECKLIST:

1. Does the code compile?
2. Does it run?
3. Does it produce meaningul and correct output?