

```

1 // Header file ParticleType.hpp - Luca Morelli 2021
2
3 #ifndef PARTICLETYPE_HPP
4 #define PARTICLETYPE_HPP
5
6 #include <iostream>
7 #include <string>
8
9 class ParticleType {
10     // Data Members
11     std::string const name_;
12     double const mass_;
13     int const charge_;
14
15 public:
16     // Constructor declaration
17     ParticleType(std::string name, double mass, int charge)
18         : name_{name}, mass_{mass}, charge_{charge} {}
19
20     // Member function declaration
21     virtual void print() const;
22     std::string const& getName() const;
23     double getMass() const;
24     int getCharge() const;
25     virtual double getWidth() const;
26 };
27
28 // Operator overload
29 std::ostream& operator<<(std::ostream& os, ParticleType const& particleType);
30
31 #endif

```