

```
1: #ifndef EDistance_HPP
2: #define EDistance_HPP
3:
4: #include <cstring>
5: #include <vector>
6:
7: class EDistance {
8: public:
9:     EDistance(std::string _stringA, std::string _stringB);
10:     void printOpt() const;
11:     int getEditDistance() const;
12:     std::string getEditString() const;
13:
14: private:
15:     // Input Variables
16:     std::string stringA;
17:     std::string stringB;
18:
19:     // Constructed Variables
20:     std::vector< std::vector<int> > opt;
21:     int editDistance;
22:     std::string editString;
23:
24:     // Private Functions
25:     int optDistance();
26:     std::string alignment() const;
27:     int penalty(char a, char b);
28:     int min(int a, int b, int c);
29: };
30:
31: #endif
```