Task5 Overloading

Function Overloading

- What is function overloading?
- What are the benefits of designing function overloading in C++?
- Write a small piece of code to introduce your understanding of function overloading.
- Implement a division function through overloading, which should be able to perform integer division, floating-point division, and matrix division (by multiplying with the inverse) when the input parameters are integers, floating points, and matrices, respectively.
    - You can directly implement integer and floating-point division through function overloading.
    - You need to implement a simple matrix class (you can assume all matrices are square and invertible).

Operator Overloading

- Read and learn the content at https://oi-wiki.org/lang/op-overload/ on your own, and use code to analyze your understanding of operator overloading.
- Attempt to implement the division function in the Function Overloading section by using operator overloading.
- How to write operator oveloading for the operators with only one operand such as `!,~` ?
- Using the knowledge of operator overloading you have learned, complete the problem at https://www.luogu.com.cn/problem/CF1017A.
- What should be the return value of all assignment operators like `+=,-=,=,^=` ?
- If you don't provide operator overload for `=` , can you use `A = B` ? Try to give an explanation.