1. (8 marks) Write a Java method that takes integer parameters $a$ and $b$ and returns the double-valued quantity

\[
\sum_{i=1}^{b} \frac{a}{i} = a + \frac{a}{2} + \frac{a}{3} + \ldots + \frac{a}{b}
\]

if both $a$ and $b$ are greater than 0, and $-1$ otherwise. Note that all divisions in the expression above should be floating-point instead of integer.
2. (12 marks) Consider the following Java program:

```java
class Q1_2 {
    public static void main(String[] arg){
        QObj x = new QObj(1), y = new QObj(2);
        int a = 3, b = 4;

        System.out.println("#10: x = " + x.getVal() +
        " / y = " + y.getVal());
        System.out.println("#1S: a = " + a + " / b = " + b);
        a = 5; change(x, a); b = 6;
        System.out.println("#20: x = " + x.getVal() +
        " / y = " + y.getVal());
        System.out.println("#2S: a = " + a + " / b = " + b);
        a = b; y = x; b = 7;
        System.out.println("#30: x = " + x.getVal() +
        " / y = " + y.getVal());
        System.out.println("#3S: a = " + a + " / b = " + b);
    }

    public static void change(QObj a, int b){
        b = b + 10; a.setVal(b + 20);
    }
}

class QObj {
    private int a = 8;

    public QObj(int b){ a = b; }

    public void setVal(int b){ a = b; }

    public int getVal(){ return(a); }
}
```

Give the output produced by executing this program.