Bài tập Bank Deposit

The data about bank deposit of today consists of a sequence of deposit operations under the form:

<user> <money> <time>

the user <user> deposits amount of money <money> at time-point <time> (<user> is a string of length from 2 to 10, <money> is an integer from 1 to 10000, <time> is a string under the form hh:mm:ss, for example, C0002 120 09:36:07 -> user C0002 deposits 120$ at 9 hours, 36 minutes, 7 seconds)

We need to perform a sequence of queries under 3 categories:

- **total-deposit**: return the total amount of money that users deposit today
- **deposit-of <u>:** return the total amount of money the user <u> deposits today
- **deposit-period <start> <end>:** return the total money that users deposit from time-point <start> to the time-point <end> (<start> and <end> a strings under the form hh:mm:ss, for instance 07:04:42)

Input

- The input consists of 2 blocks:
- The first block is a sequence of lines, each line contains a deposit operation under the format above. The first block is terminated with a line containing #
- The second block is a sequence of lines, each line contains a query described above. The second block is terminated with a line containing #

Output

- Each line contains the result of the corresponding query read from the input (second block)

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- **Example**

Input	Output
C00003 63 13:55:17 C00002 52 00:06:53 C00002 45 12:55:29 C00003 86 05:21:00 C00001 87 17:52:16 C00001 46 18:14:47 C00002 96 06:55:59 C00003 74 01:30:33 C00001 74 05:14:16 C00002 99 13:43:14 # total-deposit deposit-period 03:13:29 20:20:40 deposit-of C00001 deposit-period 14:50:26 18:32:46 deposit-of C00002 #	722 596 207 133 292

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```
import java.io.BufferedReader;
import java.io.FileReader;
import java.io.InputStreamReader;
import java.io.PrintWriter;
import java.util.ArrayList;
import java.util.HashMap;
import java.util.Random;

public class Main {
	public static int hashTime(String t) {
		String[] s = t.split(":");
		int h = Integer.valueOf(s[0]);
		int m = Integer.valueOf(s[1]);
		int ss = Integer.valueOf(s[2]);
		return h*3600 + m*60 + ss;
	}
```

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```
public static void run() {
        try {
                BufferedReader in = new BufferedReader(new InputStreamReader(System.in));
                int total = 0;
                HashMap<String, Integer> mU2Money = new HashMap<String, Integer>();
                int MAXT = 24*60*60;
                int[] a = new int[MAXT];
                for(int i = 0; i < MAXT; i++) a[i] = 0;
                while(true) {
                        String line = in.readLine();
                        if(line.equals("#")) {
                                break;
                        }else {
                                String[] s = line.split(" ");
                                String u = s[0];
                                int money = Integer.valueOf(s[1]);
                                String t = s[2];
```

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```
                        if(mU2Money.get(u)==null) {
                                mU2Money.put(u, money);
                        }else {
                                int newMoney = mU2Money.get(u) + money;
                                mU2Money.put(u, newMoney);
                        }
                        int it = hashTime(t);
                        a[it] += money;
                        total += money;
                }
        }
        int[] T = new int[MAXT];
        T[0] = a[0];
        for(int i = 1; i < MAXT; i++) T[i] = T[i-1] + a[i];
```

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```
while(true) {
        String line = in.readLine();
        if(line.equals("#")) break;
        String[] s= line.split(" ");
        if(s[0].equals("total-deposit")) {
                System.out.println(total);
        }else if(s[0].equals("deposit-of")) {
                String u = s[1];
                if(mU2Money.get(u) == null) System.out.println(0);
                else System.out.println(mU2Money.get(u));
        }else if(s[0].equals("deposit-period")) {
                String t1 = s[1];
                String t2 = s[2];
                int i = hashTime(t1);
                int j = hashTime(t2);
                int res = T[j];
                if(i > 0) res= T[j] - T[i-1];
                System.out.println(res);
        }
}
```

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```
                        in.close();
                }catch(Exception e) {
                        e.printStackTrace();
                }
        }
        public static void main(String[] args) {
                run();
        }

}
```