第九章

9.3

```java
package work5;

import java.util.Date;

public class work9_3 {
    public static void main(String[] args) {
        long l = 10000;

        Date date = new Date(l);
        printDate(l, date);
        l *= 10;

        for (int i = 0; i < 7; i++) {
            date.setTime(l);
            printDate(l, date);
            l *= 10;
        }
    }

    // 用于显示日期
    public static void printDate(long l, Date date) {
        System.out.println(l + ": " + date.toString());
    }
}
```

9.4

```java
package work5;

import java.util.Random;

public class work9_4 {
    public static void main(String[] args) {

        Random random = new Random(1000);

        for (int i = 0, n = 0; i < 50; i++, n++) {
            if (n == 5) {
                System.out.println("");
                n = 0;
            }

            System.out.print(random.nextInt(100) + "\t");
        }

    }
}
```

9.5

```
package work5;

import java.util.GregorianCalendar;

public class work9_5 {

    public static void main(String[] args) {

        GregorianCalendar calender = new GregorianCalendar();
        System.out.println("now: " + calender.get(GregorianCalendar.YEAR) + "."
+ (calender.get(GregorianCalendar.MONTH) + 1) + "." +
calender.get(GregorianCalendar.DAY_OF_MONTH));

        calender.setTimeInMillis(1234567898765L);
        System.out.println("after set: " + calender.get(GregorianCalendar.YEAR)
+ "." + (calender.get(GregorianCalendar.MONTH) + 1) + "." +
calender.get(GregorianCalendar.DAY_OF_MONTH));

    }

}
```

9.6

```
package work5;

import java.util.Date;
import java.util.Random;

public class work9_6 {
    public static void main(String[] args) {
        final int NUM = 100000;

        int[] number = new int[NUM];
        Random random = new Random();

        for (int i = 0; i < NUM; i++)
            number[i] = random.nextInt(100000);

        StopWatch stopWatch = new StopWatch();
        sort(number);
        stopWatch.stop();

        System.out.println(stopWatch.getElapsedTime() + "ms");

    }

    // 选择排序
    public static void sort(int[] a) {
        for (int i = 0; i < a.length; i++) {
            int tmp = i;
            for (int j = i + 1; j < a.length; j++) {
                if (a[j] < a[tmp])
```

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                    tmp = j;
                }
                int temp = a[tmp];
                a[tmp] = a[i];
                a[i] = temp;
            }
        }

}

class StopWatch {

    private Date startTime;
    private Date endTime;

    public StopWatch() {
        startTime = new Date();
    }

    public void start() {
        startTime = new Date();
    }

    public void stop() {
        endTime = new Date();
    }

    public long getElapsedTime() {
        return endTime.getTime() - startTime.getTime();
    }

    public Date getStartTime() {
        return startTime;
    }

    public Date getEndTime() {
        return endTime;
    }

}
```

9.10

```
package work5;

import java.util.Scanner;

public class work9_10 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        double a, b, c;
        System.out.print("请输入a,b,c: ");
        a = input.nextDouble();
        b = input.nextDouble();
        c = input.nextDouble();
        QuadraticEquation qe = new QuadraticEquation(a, b, c);
```

```
        if (qe.isSolvable()) {
            System.out.println("x1 = " + qe.getRoot1());
            System.out.println("x2 = " + qe.getRoot2());
        } else {
            System.out.println("无实数根");
        }
        input.close();
    }
}

class QuadraticEquation {
    private double a, b, c;

    public QuadraticEquation(double a, double b, double c) {
        this.a = a;
        this.b = b;
        this.c = c;
    }

    public double getDiscriminant() {
        return b * b - 4 * a * c;
    }

    public double getRoot1() {
        return (-b + Math.sqrt(getDiscriminant())) / (2 * a);
    }

    public double getRoot2() {
        return (-b - Math.sqrt(getDiscriminant())) / (2 * a);
    }

    public boolean isSolvable() {
        return getDiscriminant() >= 0;
    }

}
```

9.11

```
package work5;

import java.util.Scanner;

public class work9_11 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        double a, b, c, d, e, f;
        System.out.print("请输入a,b,c,d,e,f: ");
        a = input.nextDouble();
        b = input.nextDouble();
        c = input.nextDouble();
        d = input.nextDouble();
        e = input.nextDouble();
        f = input.nextDouble();
        LinearEquation le = new LinearEquation(a, b, c, d, e, f);
        if (le.isSolvable()) {
            System.out.println("x = " + le.getX());
```

```
            System.out.println("y = " + le.getY());
        } else {
            System.out.println("无实数根");
        }
        input.close();
    }
}

class LinearEquation {
    private double a, b, c, d, e, f;

    public LinearEquation(double a, double b, double c, double d, double e,
double f) {
        this.a = a;
        this.b = b;
        this.c = c;
        this.d = d;
        this.e = e;
        this.f = f;
    }

    public double get_a() {
        return a;
    }

    public double get_b() {
        return b;
    }

    public double get_c() {
        return c;
    }

    public double get_d() {
        return d;
    }

    public double get_e() {
        return e;
    }

    public double get_f() {
        return f;
    }

    public double getX() {
        return (e * d - b * f) / (a * d - b * c);
    }

    public double getY() {
        return (a * f - e * c) / (a * d - b * c);
    }

    public boolean isSolvable() {
        return a * d - b * c != 0;
    }

}
```