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CS 234 – Lab 2

P2.1

Main.java

```
public class Main
{
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);

        char newE;
        do {
            System.out.print("Please enter year: ");
            int y = in.nextInt();

            int a = y % 19;
            int b = y / 100;
            int c = y % 100;
            int d = b / 4;
            int e = b % 4;
            int g = (8 * b + 13) / 25;
            int h = (19 * a + b - d - g + 15) % 30;
            int j = c / 4;
            int k = c % 4;
            int m = (a + 11 * h) / 319;
            int r = (2 * e + 2 * j - k - h + m + 32) % 7;
            int n = (h - m + r + 90) / 25;
            int p = (h - m + r + n + 19) % 32;

            /*System.out.println("a: " + a);
            System.out.println("b: " + b);
            System.out.println("c: " + c);
            System.out.println("d: " + d);
```

input

```
Please enter year: 2001
Easter is on 4/15/2001
Find Easter for another year(enter y or n)?: y
Please enter year: 2024
Easter is on 3/31/2024
Find Easter for another year(enter y or n)?: y
Please enter year: 1986
Easter is on 3/30/1986
Find Easter for another year(enter y or n)?: n


...Program finished with exit code 0
Press ENTER to exit console.
```

P2.13

Main.java

```java
public static void main(String[] args) {
    Scanner in = new Scanner(System.in);
    char newCalc;
    do {
        System.out.print("Please enter frequency in Hz: ");
        double f = in.nextDouble();

        System.out.print("Please enter capacitor minimum value in F: ");
        double cMin = in.nextDouble();

        System.out.print("Please enter capacitor maximum value in F: ");
        double cMax = in.nextDouble();

        double C = Math.sqrt(cMin * cMax);
        double L = 1 / (Math.pow(2 * Math.PI * f, 2) * C);
        double fMin = 1 / (2 * Math.PI * Math.sqrt(L * cMax));
        double fMax = 1 / (2 * Math.PI * Math.sqrt(L * cMin));

        System.out.println("C: " + C);
        System.out.println("L: " + L);
        System.out.println(fMin + " Hz < f < " + fMax);
        System.out.print("calculate new fmin & fmax(enter y or n)?: ");
        newCalc = in.next().charAt(0);
    }
```

input

```
Please enter frequency in Hz: 1670000
Please enter capacitor minimum value in F: .000000000014
Please enter capacitor maximum value in F: .000000000050
C: 2.6457513110645906E-11
L: 3.432877458858988E-4
1214803.3446964193 Hz < f < 2295762.5299401437
calculate new fmin & fmax(enter y or n)?: y
Please enter frequency in Hz: 60
Please enter capacitor minimum value in F: .014
Please enter capacitor maximum value in F: .003
C: 0.006480740698407861
L: 0.0010857081984817383
88.18667041049588 Hz < f < 40.822495999027204
calculate new fmin & fmax(enter y or n)?: n


...Program finished with exit code 0
Press ENTER to exit console.
```