

Binary.java

```
package Bonus;

public class Binary {

    public void ToBinary(int x) {
        int binary = 0;
        int aux = 1;
        while (x > 0) {
            if (x % 2 == 1) {
                binary += aux;
            }
            aux *= 10;
            x /= 2;
        }
        System.out.println(binary + " in binary");
    }

    public void ToBaseThree(int x) {
        int Three = 0;
        int aux = 1;
        while (x > 0) {
            Three += (x % 3) * aux;
            aux *= 10;
            x /= 3;
        }
        System.out.println(Three + " in base three");
    }

    public void ToBaseFour(int x) {
        int Four = 0;
        int aux = 1;
        while (x > 0) {
            Four += (x % 4) * aux;
            aux *= 10;
            x /= 4;
        }
        System.out.println(Four + " in base four");
    }

    public void ToBaseSix(int x) {
        int Six = 0;
        int aux = 1;
        while (x > 0) {
            Six += (x % 6) * aux;
            aux *= 10;
            x /= 6;
        }
        System.out.println(Six + " in base six");
    }

    public void BinaryToDecimal(int x) {
        int tmp = x;
        boolean isBinary = true;
        while (tmp > 0) {
            if (tmp % 10 > 1) {
                isBinary = false;
                break;
            }
            tmp /= 10;
        }
        if (isBinary) {
```

```
        int exponent = 0;
        int aux = 0;
        while (x > 0) {
            tmp = x % 10;
            if (tmp == 1) {
                tmp *= exponential(2, exponent);
            }
            exponent++;
            aux += tmp;
            x /= 10;
        }
        System.out.println(aux + " from binary to decimal");
    }
}

public int exponential(int a, int x) {
    if (x == 0) {
        a = 1;
        return a;
    }
    int aux = a;
    for (int i = 1; i < x; i++) {
        a *= aux;
    }
    return a;
}

public static void main(String[] args) {
    Binary a = new Binary();
    a.ToBinary(2);
    a.ToBaseThree(3);
    a.ToBaseFour(4);
    a.ToBaseSix(6);
    a.BinaryToDecimal(1010);
}
}
```