

```
1 import 'dart:math';
2
3 int binaryToDecimal(String binary) {
4     int decimal = 0;
5     int power = 0;
6
7     for (int i = binary.length - 1; i >= 0; i--) {
8         int digit = int.parse(binary[i]);
9
10        decimal += digit * (1 << power);
11        power++;
12    }
13
14    return decimal;
15}
16
17 int octalToDecimal(String octal) {
18     int decimal = 0;
19     int power = 0;
20
21     for (int i = octal.length - 1; i >= 0; i--) {
22         int digit = int.parse(octal[i]);
23
24        decimal += digit * pow(8, power).toInt();
25        power++;
26    }
27
28    return decimal;
29}
```

```

31 int hexadecimalToDecimal(String hexadecimal) {
32     int decimal = 0;
33     int power = 0;
34
35     for (int i = hexadecimal.length - 1; i >= 0; i--) {
36         String digit = hexadecimal[i];
37
38         int digitValue;
39         if (digit == 'A' || digit == 'a') {
40             digitValue = 10;
41         } else if (digit == 'B' || digit == 'b') {
42             digitValue = 11;
43         } else if (digit == 'C' || digit == 'c') {
44             digitValue = 12;
45         } else if (digit == 'D' || digit == 'd') {
46             digitValue = 13;
47         } else if (digit == 'E' || digit == 'e') {
48             digitValue = 14;
49         } else if (digit == 'F' || digit == 'f') {
50             digitValue = 15;
51         } else {
52             digitValue = Integer.parseInt(digit);
53         }
54
55         decimal += digitValue * Math.pow(16, power).intValue();
56         power++;
57     }
58
59     return decimal;
60 }
61
62 String decimalToBinary(int decimal) {
63     if (decimal == 0) {
64         return "0";
65     }
66
67     String binary = "";
68
69     while (decimal > 0) {
70         int remainder = decimal % 2;
71         binary = binary + remainder.toString();
72         decimal = decimal ~/ 2;
73     }
74
75     return binary.split("").reversed().join("");
76 }
77
78 String binaryToOctal(String binary) {
79     int decimal = binaryToDecimal(binary);
80     String octal = decimalToOctal(decimal);
81     return octal;
82 }

```

```

84 String binaryToHexadecimal(String binary) {
85     int decimal = binaryToDecimal(binary);
86     String hexadecimal = decimalToHexadecimal(decimal);
87     return hexadecimal;
88 }
89
90 String decimalToOctal(int decimal) {
91     String octal = '';
92
93     if (decimal == 0) {
94         octal = '0';
95     } else {
96         while (decimal > 0) {
97             int remainder = decimal % 8;
98             octal = remainder.toString() + octal;
99             decimal = decimal ~/ 8;
100         }
101     }
102
103     return octal;
104 }
105
106 String decimalToHexadecimal(int decimal) {
107     String hexadecimal = '';
108
109     if (decimal == 0) {
110         hexadecimal = '0';
111     } else {
112         while (decimal > 0) {
113             int remainder = decimal % 16;
114             String hexDigit;
115
116             if (remainder < 10) {
117                 hexDigit = remainder.toString();
118             } else {
119                 hexDigit = String.fromCharCode(65 + remainder - 10);
120             }
121
122             hexadecimal = hexDigit + hexadecimal;
123             decimal = decimal ~/ 16;
124         }
125     }
126
127     return hexadecimal;
128 }
129
130 String octalToBinary(String octal) {
131     int decimal = octalToDecimal(octal);
132     String binary = decimalToBinary(decimal);
133     return binary;
134 }
135

```

```
String hexadecimalToBinary(String hexadecimal) {  
    int decimal = hexadecimalToDecimal(hexadecimal);  
    String binary = decimalToBinary(decimal);  
    return binary;  
}
```