

```

1: #include <stdio.h>
2: #include <stdlib.h>
3: int main()
4: {
5:     char num1,num2,num3,num4,num5,num6,num7,num8,hex11,hex12;
6:     int b0 = 0,b1 = 0,b2 = 0,b3 = 0,b4 = 0,b5 = 0,b6 = 0,b7 = 0;
7:     int ch,Decimal,Octal,Octal2,Octal3,hex1,hex2;
8:
9:     printf("1. Convert Binary to Decimal\n");
10:    printf("2. Convert Binary to Octal\n");
11:    printf("3. Convert Binary to Hexadecimal\n");
12:    printf("4. Exit\n");
13:    printf("Choose a choice: ");
14:    scanf("%d",&ch);
15:
16:    if(ch==4)
17:    {
18:        printf("Exit completed..\n\n");
19:        exit(EXIT_SUCCESS);
20:    }
21:    else if (ch > 4)
22:    {
23:        printf("not valid option!\n\n");
24:        exit(EXIT_SUCCESS);
25:    }
26:
27:    printf("Input Binary number (8 digits) : ");
28:    scanf(" %c%c%c%c%c%c%c%c",&num1,&num2,&num3,&num4,&num5,&num6,&num7,&num8);
29:    b0 = num1-48;
30:    b1 = num2-48;
31:    b2 = num3-48;
32:    b3 = num4-48;
33:    b4 = num5-48;
34:    b5 = num6-48;
35:    b6 = num7-48;
36:    b7 = num8-48;
37:
38:    if( (b0==1 || b0==0) && (b1==1 || b1==0) && (b2==1 || b2==0) && (b3==1 || b3==0)
39:        && (b4==1 || b4==0) && (b5==1 || b5==0) && (b6==1 || b6==0) && (b7==1 || b7==0)
40:    {
41:        printf("Binary Number is %c%c%c%c%c%c%c%c\n",num1,num2,num3,num4,num5,num6,num7,num8);
42:    }
43:    else
44:    {
45:        printf("Error! digit must be 1 or 0\n");
46:        exit(EXIT_SUCCESS);
47:    }
48:
49:    if(ch==1)
50:    {

```

```

51:         Decimal = 00*128 + b1*64 + b2*32 + b3*16 + b4*8 + b5*4 + b6*2 + b7*1;
52:         printf("Decimal is %d\n", Decimal);
53:     }
54:
55:     else if(ch==2)
56:     {
57:
58:         Octal1 = b0*2 + b1*1;
59:         Octal2 = b2*4 + b3*2 + b4*1;
60:         Octal3 = b5*4 + b6*2 + b7*1;
61:         printf("Octal is %d%d%d\n", Octal1,Octal2,Octal3);
62:     }
63:     else if(ch==3)
64:     {
65:         if(b0<=1 && b1<=1 && b2<=1 && b3<=1 && b4<=1 && b5<=1 && b6<=1 && b7<=1)
66:         {
67:             hex1 = (b0*8)+(b1*4)+(b2*2)+(b3*1);
68:             hex2 = (b4*8)+(b5*4)+(b6*2)+(b7*1);
69:
70:             if(hex1<=9)
71:                 hex11 = hex1+48;
72:             if(hex2<=9)
73:                 hex12 = hex2+48;
74:
75:             if(hex1>9)
76:                 hex11 = hex1+55;
77:             if(hex2>9)
78:                 hex12 = hex2+55;
79:
80:         }
81:         printf("Hexadecimal is %c%c\n",hex11,hex12);
82:     }
83:     return 0;
84: }
85:

```