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/*  
name : Durvesh D. Dhake  
section: A  
roll no: A-48  
batch: A-2  
*/
```

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// 4. A program for inter conversion of number system.  
#include <stdio.h>
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void main()  
{  
    int d, r, q;  
    int n, z, b, b1, b2, d1, o, o1, h, i, j, y1[10], y2[10], y3[10], y4[10], bno[10], ono[10], temp;  
    char hexno[10];  
    // Decimal to Binary  
    printf("\n Decimal to Binary");  
    printf("\nEnter any decimal number=");  
    scanf("%d", &d);  
    i = 1;  
    while (d != 0)  
    {  
        bno[i] = d % 2;  
        i++;  
        d = d / 2;  
    }  
    printf("\nEquivalent binary value is:");  
    for (j = i - 1; j > 0; j--)  
        printf("%d", bno[j]);  
    // Decimal to Octal  
    printf("\n Decimal to Octal");  
    printf("\nEnter any decimal number=");  
    scanf("%d", &d);  
    i = 1;  
    while (d != 0)  
    {  
        ono[i] = d % 8;  
        i++;  
        d = d / 8;  
    }  
    printf("\nEquivalent Octal value is:");  
    for (j = i - 1; j > 0; j--)  
        printf("%d", ono[j]);  
    // Decimal to Hexadecimal  
    printf("\n Decimal to Hexadecimal");  
    printf("\nEnter any decimal number=");  
    scanf("%d", &d);  
    i = 1;  
    while (d != 0)  
    {  
        temp = d % 16;  
        // if(temp<10)  
        hexno[i] = temp; //+48;
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        // else
        // hexno[i]=temp+55;
        i++;
        d = d / 16;
    }
    printf("\nEquivalent hexadecimal value is:-");
    for (j = i - 1; j >= 0; j--)
    {
        if (hexno[j] > 9)
            printf("%c", hexno[j] + 55);
        else
            printf("%d", hexno[j]);
    }
    // Binary to Decimal
    printf("\n Binary to Decimal");
    printf("\n Enter the Binary number=\n");
    scanf("%d", &b);
    z = 1, d = 0;
    while (b > 0)
    {
        r = b % 10;
        if (r > 1)
        {
            printf("Invalid Entry");
            break;
        }
        d = d + (r * z);
        z = z * 2;
        b = b / 10;
    }
    printf("\nDecimal equivalent = %d", d);
    // Binary to Octal
    printf("\n Binary to Octal");
    printf("\n Enter the Binary number=\n");
    scanf("%d", &b);
    z = 1, d = 0;
    while (b > 0)
    {
        r = b % 10;
        if (r > 1)
        {
            printf("Invalid Entry");
            break;
        }
        d = d + (r * z);
        z = z * 2;
        b = b / 10;
    }

    while (d > 0)
    {
        ono[j] = d % 8;
        j++;
        d = d / 8;
    }
    printf("\nOctal equivalent = ");
    for (i = j - 1; i >= 0; i--)

```



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        printf("%d", ono[i]);
// Binary to Hexadecimal
printf("\n Binary to Hexadecimal");
printf("\n Enter the Binary number=\n");
scanf("%d", &b);
z = 1, d = 0;
while (b > 0)
{
    r = b % 10;
    if (r > 1)
    {
        printf("Invalid Entry");
        break;
    }
    d = d + (r * z);
    z = z * 2;
    b = b / 10;
}
i = 0;
while (d > 0)
{
    hexno[i] = d % 16;
    i++;
    d = d / 16;
}
printf("Equivalent HexaDecimal value: ");
for (j = i - 1; j >= 0; j--)
{
    if (hexno[j] > 9)
        printf("%c", hexno[j] + 55);
    else
        printf("%d", hexno[j]);
}
}

```

/*

output:

Decimal to Binary
Enter any decimal number=1

Equivalent binary value is:1
Decimal to Octal
Enter any decimal number=11

Equivalent Octal value is:13
Decimal to Hexadecimal
Enter any decimal number=111

Equivalent hexadecimal value is:-6F0
Binary to Decimal
Enter the Binary number=
1010

Decimal equivalent = 10
Binary to Octal
Enter the Binary number=
0101



Octal equivalent =
Binary to Hexadecimal
Enter the Binary number=
001
Equivalent HexaDecimal value: 1*/

