

```
#include <stdio.h>
#include <stdlib.h>
void main (void) /*For Hex to Fixed point integer (Decimal) conversion
{
    FILE *fp,*fp1,*fp2,*fp3;
    long int var;
    char ch;
    fp=fopen ("real.txt","r"); //Input Hex file
    fp1=fopen ("real_int.txt","w"); //output integer file
    while (1)
        {
            ch=fgetc(fp);
            if (ch==EOF)
                break;
            else
            {
                fscanf(fp,"%4x",&var);
                if(var<=32768)
                {
                    fprintf(fp1,"%ld\n",var);
                }
                else
                {
                    fprintf(fp1,"%ld\n",0xfffff0000|var);
                }
            }
        }

    fclose(fp);
    fclose(fp1);

    fp2=fopen("imag.txt","r");
    fp3=fopen("imag_int.txt","w");

    while ( 1 )
        {
            ch=fgetc ( fp);
            if ( ch == EOF )
                break ;

            else
            {
```

```
        fscanf(fp2,"%4x",&var);
        if(var<=32768)
        {
            fprintf(fp3,"%ld\n",var);
        }
        else
        {
            fprintf(fp3,"%ld\n",0xfffff0000|var);
        }
    }
}

fclose(fp2);
fclose(fp3);
}
```

```
#include <stdio.h>
#include <conio.h>
#include "macro1.h"
```

```
int main(void) /*For Fixed point integer(Decimal) to Hex conversion
```

```
{
    FILE *fpr,*fpi,*fpr1,*fpi1;
    short var; //used for TOFIX
    //double var3;//used for TOFIX

    int q,q2,type;
    char ch;
    long i=0;
    q2=12; //Q format if u need to convert to and store in the file
    printf("Pl.enter Q format:");
    scanf("%d",&q);
    printf("Enter 1 for INT-HEX and 2 for HEX-INT conversion:");
    scanf("%d",&type);

    fpr=fopen("real_in.txt","r"); /* integer file for fixed point to hex conversion*/
    fpi=fopen("imag_in.txt","r"); /* integer file for fixed point to hex conversion*/

    fpr1=fopen("real_out.txt","w");
    fpi1=fopen("imag_out.txt","w");

    while(1)
    {
```

```
ch=fgetc(fpr);
if(type==1)
{
    fscanf(fpr,"%d",&var);
    fprintf(fpr1,"%x\n",0x0000ffff&var);
    if(ch==EOF)
        break;
    i=i+1;
}
else if(type==2)
{
    fscanf(fpr,"%x",&var);
    fprintf(fpr1,"%d\n",var);
    if(ch==EOF)
        break;
    i=i+1;
}
else
{
    printf("wrong entry");
}
}

while(1)
{
    ch=fgetc(fpi);
    if(type==1)
    {
        fscanf(fpi,"%d",&var);
        fprintf(fpi1,"%x\n",0x0000ffff&var);
        if(ch==EOF)
            break;
    }
    else if(type==2)
    {
        fscanf(fpi,"%x",&var);
        fprintf(fpi1,"%d\n",var);
        if(ch==EOF)
            break;
    }
    else
    {
        printf("wrong entry");
    }
}
```

```
    }  
  
    printf("I/Q packet length=%d",i);  
    return 0;  
}
```

/* DO NOT FORGET to declare and define macro1.h header file as below. */

```
/* convert a from q1 format to q2 format */  
#define FCONV (a, q1, q2) (((q2)> (q1)) ? (a)<< ((q2)-(q1)) : (a)>> ((q1)-(q2)))  
  
/* convert to and from floating point */  
#define TOFIX (d, q) ((int) ((d)*(double) (1<< (q))))  
#define TOFLT (a, q) ((double) (a) / (double) (1<< (q)))
```