

```
%  $f(x,y)*(-1)^{(x+y)} \Leftrightarrow F(u-M/2,v-N/2)$ 
```

```
B = zeros(256);  
B(103:152,116:140) = ones(50,25);  
F_B = abs(fftshift(fft2(B)));  
Z = log(1+F_B);  
mx = max(max(Z));  
c = 255/mx;  
Z_B = c*log(1+F_B);
```

```
C = B;
```

```
for row = 1:256  
    for col = 1:256  
        if mod((row-1)+(col-1),2) == 1  
            C(row,col) = -C(row,col);  
        end  
    end  
end
```

```
F_C = abs(fftshift(fft2(C)));  
Z = log(1+F_C);  
mx = max(max(Z));  
c = 255/mx;  
Z_C = c*log(1+F_C);
```

```
subplot(2,2,1);  
imagesc( B )  
colormap( gray ( 256 ) )  
axis image  
subplot(2,2,2);  
imagesc( Z_B )  
colormap( gray ( 256 ) )  
axis image  
subplot(2,2,3);  
imagesc( C )  
colormap( gray ( 256 ) )  
axis image  
subplot(2,2,4);  
imagesc( Z_C )  
colormap( gray ( 256 ) )  
axis image
```

