

```

int imageEx[SIZE][SIZE];
int imageData[ROW_SIZE][COL_SIZE];
int imageExtended[ROW_SIZE][COL_SIZE];
// reference LUT containing generalized data
int lut_imageEx[8][8]={ {780, -1, 0, 1, 0, 0, 0, 0 },
                        { 0, 0, 0, 0, 0, 0, 0, 0 },
                        { 0, 0, 0, 0, 0, 0, 0, 0 },
                        { 0, 0, 0, 0, 0, 0, 0, 0 },
                        { 0, 0, 0, 0, 0, 0, 0, 0 },
                        { 0, 0, 0, 0, 0, 0, 0, 0 },
                        { 0, 0, 0, 0, 0, 0, 0, 0 },
                        { -2, 0, 0, 0, 0, 0, 0, 0 } };

int DiscreteCosine(int imageData[SIZE][SIZE], int imageEx[SIZE][SIZE])
{
    .....
    asm("enable_parity");    // turn on store protection
    imageEx[i1][j1]= (int)sum;
    asm("disable_parity");    // turn off store protection
    .....
}

int Quantization(int imageEx[SIZE][SIZE], int imageExtended[SIZE][SIZE])
{
    .....
    int src = imageEx[i1][j1];
    int dst;
    asm("check_value @dst, @src, (8*i+j)");    // automatic correction
    imageExtended[i1][j1]= (dst/quant[i][j]);
    .....
}

int main()
{
    .....
    // register range of protected data using reference LUT
    asm("set_data @imageEx, 262144, @lut_imageEx, 64");
    DiscreteCosine(imageData, imageEx);
    Quantization(imageEx, imageExtended);
    .....
}

```