Win32 Cheatsheet #2 ver.0.4

Device Context (DC) (for drawing)

```
// Create a DC.
HDC hDC = CreateCompatibleDC(NULL);
...
DeleteDC(hDC);

// Get DC from HWND.
HDC hDC = GetDC(hwnd);
...
ReleaseDC(hwnd, hDC);

// In WM_PAINT processing:
PAINTSTRUCT ps;
if (HDC hDC = BeginPaint(hwnd, &ps))
{
    ...
    EndPaint(hwnd, &ps);
}
```

Drawing Lines (with current pen)

```
MoveToEx(hDC, x1, y1, NULL);
LineTo(hDC, x2, y2); // Draw a line

Polyline(hDC, ppt, cpt); // Open path
Polygon(hDC, ppt, cpt); // Closed path
```

Drawing Rect (with pen and brush)

```
Rectangle(hDC, left, top, right, bottom);
FillRect(hDC, &rc, hbr);
```

Rounded Rect (with pen and brush)

```
RoundRect(hDC,  left, top, right, bottom);
```

Ellipse / circle (with pen and brush)

```
Ellipse(hDC, left, top, right, bottom);
```

Text (with font and text/bk color)

```
SetTextColor(hDC, RGB(0, 0, 0));
SetBkColor(hDC, RGB(64, 64, 0));
SetBkMode(hDC, OPAQUE or TRANSPARENT);

TextOut(hDC, x, y, text, lstrlen(text));
UINT uFormat = DT_LEFT | DT_TOP;
DrawText(hDC, text, -1, &rc, uFormat);
```

Pen (with color and line width for stroking)

```
hPen = CreatePen(PS_SOLID, width, RGB(0, 0, 0));
HGDIOBJ hPenOld = SelectObject(hDC, hPen);
...(stroke something)...
SelectObject(hDC, hPenOld);
DeleteObject(hPen);

hPen = ExtCreatePen(PS_..., width, pLogBrush,
                    cLineStyles, &pdwLineStyles);
...
hPen = (HPEN)GetStockObject(
    NULL_PEN, BLACK_PEN or WHITE_PEN);
...
```

Brush (for filling with color or pattern)

```
hbr = CreateSolidBrush(RGB(255, 0, 0));
HGDIOBJ hbrOld = SelectObject(hDC, hbr);
...(fill something)...
SelectObject(hDC, hbrOld);
DeleteObject(hBrush);

hbr = (HBRUSH)GetStockObject(
    NULL_BRUSH, BLACK_BRUSH, DKGRAY_BRUSH,
    GRAY_BRUSH, LTGRAY_BRUSH or WHITE_BRUSH);
...
hbr = CreateHatchBrush(HS_CROSS, RGB(255, 0, 0);
...
hbr = GetSysColorBrush(COLOR_3DFACE);
...
hbr = CreatePatternBrush(hBitmap);
...
hbr = (HBRUSH)(COLOR_3DFACE + 1);
...
```

Font

```
LOGFONT lf;
ZeroMemory(&lf, sizeof(lf));
lf.lfHeight = -16;
lstrcpyn(lf.lfFaceName, TEXT("MS Shell Dlg"),
         _countof(lf.lfFaceName));
hFont = CreateFontIndirect(&lf);
HGDIOBJ hFontOld = SelectObject(hDC, hFont);
...(drawing text)...
SelectObject(hDC, hFontOld);
DeleteObject(hFont);
```

Region

```
// Create a empty region.
hRgn = CreateRectRgn(0, 0, 0, 0);
// Rectanglar region.
hRgn = CreateRectRgn(left, top, right, bottom);
// Region of rounded rectangle.
hRgn = CreateRoundRectRgn(left, top, right, bottom);
// Elliptic region.
hRgn = CreateEllipticRgn(left, top, right, bottom);
// Fill region.
FillRgn(hDC, hRgn, hbr);
// Combine regions.
CombineRgn(hRgn, hRgnA, hRgnB, RGN_OR);
// Set rectangle to region.
SetRectRgn(hRgn, left, top, right, bottom);
// Get region raw data.
GetRegionData(hRgn, dwCount, pRgnData);
// Delete region.
DeleteObject(hRgn);
```

Graphics Paths

```
BeginPath(hDC);
...(draw lines or CloseFigure(hDC))...
EndPath(hDC); // Now path is stored.

// When path is stored, you can call one of:
hRgn = PathToRegion(hDC); // get region
StrokePath(hDC); // with current pen
FillPath(hDC); // with current brush
StrokeAndFillPath(hDC); // with pen and brush
```

GUI Elements

```
DrawFocusRect(hDC, &rc);
DrawEdge(hDC, &rc, bdr_flags, bf_flags);
// Draw icon or cursor
DrawIcon(hDC, x, y, hIcon); // or hCursor
DrawIconEx(hDC, x, y, hIcon, cx, cy, istep, hbr, flags);
// Draw grayed text
DrawState(hDC, hbr, NULL, (LPARAM)text, 0,
          x, y, cx, cy, DST_TEXT | DSS_DISABLED);
DrawFrameControl(hDC, &rc, DFC_BUTTON,
                 DFCS_BUTTONPUSH); // draw button
// Get system color
COLORREF rgb = GetSysColor(COLOR_3DFACE);
// Redraw the window by WM_PAINT.
InvalidateRect(hwnd, &rc or NULL, TRUE);
```