自动生成龙德投标结果分析表（无需）

```matlab
clear;clc;
% 自动提取关键信息
dir_pdf = '\\longde\longde\008-投标中心\006-数据分析中心\招标文件PDF汇总\';
name = '麻涌南峰路道路升级改造工程.pdf';
path_pdf = [dir_pdf, name];
[project_info, pdfstr] = GetPdfContent(path_pdf);
project_name = name(1 : end-4);
h_bid = project_info.("h值");
Rp_bid = project_info.("下浮率");
M_bid = project_info.("最高报价");
qualification = project_info.("资质要求");
project_address = project_info.("镇区");
bid_time = project_info.("开标时间");
bid_address = project_info.("开标地点");
bid_method = project_info.("投标方法");
bid_type = project_info.("标书类型");
% 预测下浮率
zb_xlsx = readtable('\\longde\longde\008-投标中心\006-数据分析中心\分析结果汇总\zb.xlsx', 'Variabl
Rps = zb_xlsx.("预测下浮率");
Project_names = zb_xlsx.("工程名称");
pos_index = nan;
for i = 1:length(Project_names)
    if strcmp(project_name, Project_names{i})
        pos_index = i;
        break;
    end
end
Rp_pre = Rps(pos_index);
P_pre = M_bid * (1 - Rp_pre);
% 读取投标数据
path_xlsx = ['\\longde\longde\008-投标中心\006-数据分析中心\投标数据Excel文件汇总\', project_name,
try
    file = readtable(path_xlsx, 'Sheet', '开标信息', 'VariableNamingRule', 'preserve');
catch ME
    file = readtable(path_xlsx, 'Sheet', 1, 'VariableNamingRule', 'preserve');
end
file_sort = sortrows(file, 2);
company_name = file_sort.("企业名称");
Gn = file_sort.("投标报价");
Ps = 1 - Gn / M_bid;
% 去掉首尾均值
P = mean(Gn(2 : end-1));
R = 1 - P / M_bid;
err_real = Gn - P;
err_abs = abs(err_real);
[~, indx] = min(err_abs);
% 低于 P 的最高值
if err_real(indx) > 0
    indx = indx - 1;
end
if indx < 1
```

```matlab
        indx = 1;
    end
    company_name_win = company_name(indx);
    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%% 画图
    fig = figure;
    % set(fig, 'Position', [100, 100, 430, 405]);
    stem(err_real, 'LineWidth', 1.5);
    xlim([0.5, 15.5]);
    hold on
    stem(indx, err_real(indx), 'MarkerFaceColor', 'red');
    text(indx, 0, num2str(err_real(indx), '%.2f'), 'FontSize', 6, 'Rotation', 90);
    plot([1, 15], ones(1, 2) * (P_pre - P), 'LineWidth', 1.5);
    text(10, (P_pre - P) * 1.1, num2str(P_pre - P, '%.2f'), 'FontSize', 6);
    hold off
    ylabel('投标价和均价差距');
    title(project_name);
    set(gca, 'FontSize', 6, 'LooseInset', [0 0 0.01 0.01]);
    set(gca, 'XTick', 1:15, 'XTickLabels', company_name, 'XTickLabelRotation', 45);
    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%% 导出 Excel %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
    % 设置文件保存路径
    path_save = '\\longde\longde\008-投标中心\006-数据分析中心\分析结果汇总\';
    filename = [path_save, project_name, '.xlsx'];
    % 检查 Excel 是否已经打开
    try
        % 若 Excel 服务器已经打开，返回其句柄
        excel = actxGetRunningServer('Excel.Application');
    catch
        % 创建一个Microsoft Excel 服务器
        excel = actxserver('Excel.Application');
    end
    % 设置 excel 不可见
    excel.Visible = 0;
    % 取消保存提示
    excel.DisplayAlerts = false;
    % 检查文件是否存在
    if exist(filename, 'file')
        workbook = excel.Workbooks.Open(filename);
    else
        workbook = excel.Workbooks.Add;
        workbook.SaveAs(filename);
    end
    % 删除之前的第一个 sheet
    sheets = excel.ActiveWorkbook.Sheets;
    sheets.Add;
    sheets.Item(2).Delete;
    % 返回第1个Sheet句柄
    sheet1 = sheets.Item(1);
    % 激活第1个表格
    sheet1.Activate;
    %%%%%%%%%%%%%%%%%%%%%%%%%%%%%% 设置模板
    % 修改第1个Sheet的名字
    sheet1.Name = '记录分析';
```
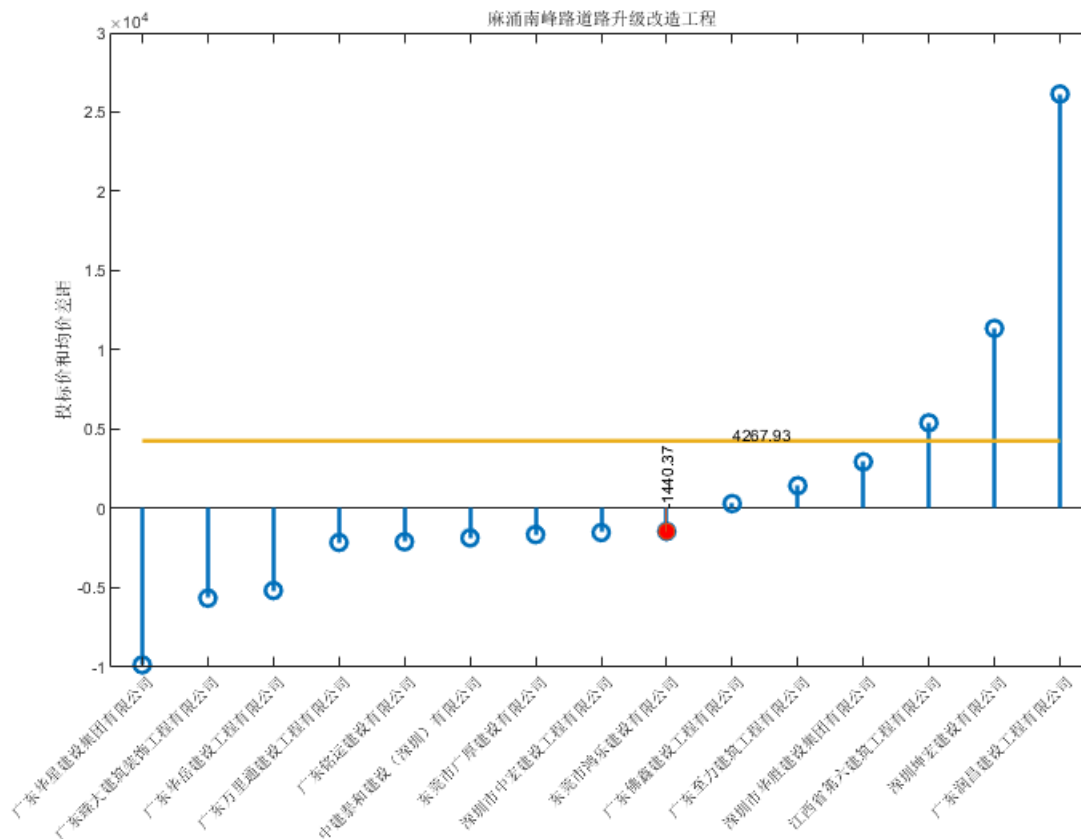
```matlab
% 下边框
sheet1.Range('A8:D8').Borders.Item(4).Linestyle = 1;
sheet1.Range('A24:D24').Borders.Item(4).Linestyle = 1;
% 右边框
sheet1.Range('D1:D24').Borders.Item(2).Linestyle = 1;
% 边框加粗
sheet1.Range('A8:D8').Borders.Item(4).Weight = 3;
sheet1.Range('A24:D24').Borders.Item(4).Weight = 3;
sheet1.Range('D1:D24').Borders.Item(2).Weight = 3;
% 居中
sheet1.Range('A1:D24').HorizontalAlignment = 3;
sheet1.Range('A1:D24').VerticalAlignment = 2;
% 行高
sheet1.Range('A1:A24').RowHeight = 20;
% 列宽
sheet1.Range('A1').ColumnWidth = 9;
sheet1.Range('B1').ColumnWidth = 35;
sheet1.Range('C1').ColumnWidth = 13;
sheet1.Range('D1').ColumnWidth = 35;
% 合并单元格
sheet1.Range('B1:D1').MergeCells = 1;
% 字体大小
sheet1.Range('A1:A8').Font.size = 12;
sheet1.Range('C2:C8').Font.size = 12;
sheet1.Range('A8:D8').Font.size = 12;
% 字体加粗
sheet1.Range('A1:A9').Font.bold = 2;
sheet1.Range('C2:C9').Font.bold = 2;
sheet1.Range('A9:D9').Font.bold = 2;
% 格式
sheet1.Range('B5:B8').NumberFormatLocal = "0.00";
sheet1.Range('D5:D8').NumberFormatLocal = "0.000%";
sheet1.Range('C10:C24').NumberFormatLocal = "0.00";
sheet1.Range('D10:D24').NumberFormatLocal = "0.000%";
% 红色字体
sheet1.Range(['A', num2str(9 + indx), ':D', num2str(9 + indx)]).Font.color = -16776961;
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% 写入内容
sheet1.Range('A1').Value = '工程名称';
sheet1.Range('A2').Value = '资质要求';
sheet1.Range('A3').Value = '镇区';
sheet1.Range('A4').Value = '投标方法';
sheet1.Range('A5').Value = '最高报价';
sheet1.Range('A6').Value = '预测报价';
sheet1.Range('A7').Value = '平均报价';
sheet1.Range('A8').Value = '报价差距';
sheet1.Range('C2').Value = '开标地点';
sheet1.Range('C3').Value = '开标日期';
sheet1.Range('C4').Value = '标书类型';
sheet1.Range('C5').Value = '下浮率';
sheet1.Range('C6').Value = '下浮率';
sheet1.Range('C7').Value = '下浮率';
sheet1.Range('C8').Value = '下浮率差距';
sheet1.Range('A9').Value = '序号';
sheet1.Range('B9').Value = '企业名称';
```

```matlab
sheet1.Range('C9').Value = '投标报价';
sheet1.Range('D9').Value = '下浮率';
sheet1.Range('B1').Value = project_name;
sheet1.Range('B2').Value = qualification{1};
sheet1.Range('B3').Value = project_address{1};
sheet1.Range('B4').Value = bid_method{1};
sheet1.Range('B5').Value = M_bid;
sheet1.Range('B6').Value = P_pre;
sheet1.Range('B7').Value = P;
sheet1.Range('B8').Value = P_pre - P;
sheet1.Range('D2').Value = bid_address;
sheet1.Range('D3').Value = bid_time;
sheet1.Range('D4').Value = bid_type;
sheet1.Range('D5').Value = Rp_bid;
sheet1.Range('D6').Value = Rp_pre;
sheet1.Range('D7').Value = R;
sheet1.Range('D8').Value = Rp_pre - R;
for i = 1:15
    sheet1.Range(['A', num2str(9 + i)]).Value = i;
    sheet1.Range(['B', num2str(9 + i)]).Value = company_name{i};
    sheet1.Range(['C', num2str(9 + i)]).Value = Gn(i);
    sheet1.Range(['D', num2str(9 + i)]).Value = Ps(i);
end
% 图形复制
hgexport(fig, '-clipboard');
```



```matlab
% 图形粘贴
% 选中 sheet1 的 D3 单元格，插入直方图
```

```matlab
sheet1.Range('E1').Select;
sheet1.Paste;
%%%%%%%%%%%%%%%%%%%%%%%%% 保存并关闭
workbook.Save;
workbook.Close;
excel.Quit;
% 打开 Excel
winopen(filename);
```