# Intro

Hi! If you’re reading this, it means that you’re already at the 3rd interview stage with Synapx. It is the last “take home” assignment, so you’re very close to getting in the team, so just bear with us please.

# Overview

You are asked to finish building an office script. This document with your assignment and an excel file are sent to your email.

Once you finish your assignment, please send it back to us. Please note that even though there are no time limits for this task, we expect that this task should not take you more than 3 hours to complete.

# Assignment

We need an office script to do the following:

1. Duplicate the existing sheet and call it “Output”
2. Get all the data from the initial sheet there
3. In the Output sheet filter “Date column” to only show rows from this year
4. Highlight these in yellow colour
5. Remove the filter and update the “Quantity Sold” column. If the value in the cell is 0, it should take value from Price column but from the row above. If value is not 0, then nothing needed to be done.
6. Add another column called “Gross Profit”
7. This column should have a result of Price being multiplied by the quantity sold.
8. Add another column called “Final Gross Profit” which looks at Quantity Sold and if it’s value is more than 15, it applies a 10% discount on the value in “Final Gross Profit”.
9. Filter for “West Region” get all of the data from the first 3 columns.
10. Create a new sheet, call it “West Region” and paste this data there (including the headers).

# Important Information

## What we want you to show to us

We want you to demonstrate the following skills:

* Debugging (there are some intended bugs/minor issues),
* Building efficient and easy to maintain office script from scratch,
* Developing a production ready script,
* Knowledge of Excel and best practices within it.

## Marking Criteria

Out of total 20 points that you can earn for:

* Solution is designed to do what is stated above (10 points),
* Solution works without any errors out of the box (5 points),
* Solution is compliant with the best practice (5 points),
* Solution is efficient and easy to maintain (5 points).

function main(workbook: ExcelScript.Workbook) {

  let sheet13 = workbook.addWorksheet();

  let selectedSheet = workbook.getActiveWorksheet();

  sheet13.getRange("A1").copyFrom(selectedSheet.getRange("A:E"), ExcelScript.RangeCopyType.all, false, false);

  sheet13.setName("Output");

  let output = workbook.getWorksheet("Output");

  output.getAutoFilter().apply(output.getRange("A:E"), 4, {

    filterOn: ExcelScript.FilterOn.custom,

    criterion1: ">=" + new Date("2024-01-01").toISOString().split("T")[0]

  });

  output.getRange("A33:E51").getFormat().getFill().setColor("#ffff00");

  output.getAutoFilter().clearCriteria();

  output.getRange("F1").getFormat().getRangeBorder(ExcelScript.BorderIndex.diagonalDown).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("F1").getFormat().getRangeBorder(ExcelScript.BorderIndex.diagonalUp).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("F1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeLeft).setStyle(ExcelScript.BorderLineStyle.continuous);

  output.getRange("F1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeLeft).setWeight(ExcelScript.BorderWeight.thin);

  output.getRange("F1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeTop).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("F1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeBottom).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("F1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeRight).setStyle(ExcelScript.BorderLineStyle.continuous);

  output.getRange("F1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeRight).setWeight(ExcelScript.BorderWeight.thin);

  output.getRange("F1").getFormat().getRangeBorder(ExcelScript.BorderIndex.insideVertical).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("F1").getFormat().getRangeBorder(ExcelScript.BorderIndex.insideHorizontal).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("F1").getFormat().setHorizontalAlignment(ExcelScript.HorizontalAlignment.center);

  output.getRange("F1").getFormat().setIndentLevel(0);

  output.getRange("F1").getFormat().setVerticalAlignment(ExcelScript.VerticalAlignment.top);

  output.getRange("F1").getFormat().setIndentLevel(0);

  output.getRange("F1").getFormat().setWrapText(false);

  output.getRange("F1").getFormat().setTextOrientation(0);

  output.getRange("F1").setValue("Quantity Sold1");

  output.getRange("F:F").getFormat().autofitColumns();

  output.getRange("F2").setFormula("=IF(C2=0, B1, C2)");

  output.getRange("F2").autoFill("F2:F51", ExcelScript.AutoFillType.fillDefault);

  output.getRange("G1").getFormat().getFill().clear();

  output.getRange("G1").getFormat().getRangeBorder(ExcelScript.BorderIndex.diagonalDown).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("G1").getFormat().getRangeBorder(ExcelScript.BorderIndex.diagonalUp).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("G1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeLeft).setStyle(ExcelScript.BorderLineStyle.continuous);

  output.getRange("G1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeLeft).setWeight(ExcelScript.BorderWeight.thin);

  output.getRange("G1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeTop).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("G1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeBottom).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("G1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeRight).setStyle(ExcelScript.BorderLineStyle.continuous);

  output.getRange("G1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeRight).setWeight(ExcelScript.BorderWeight.thin);

  output.getRange("G1").getFormat().getRangeBorder(ExcelScript.BorderIndex.insideVertical).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("G1").getFormat().getRangeBorder(ExcelScript.BorderIndex.insideHorizontal).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("G1").getFormat().setHorizontalAlignment(ExcelScript.HorizontalAlignment.center);

  output.getRange("G1").getFormat().setIndentLevel(0);

  output.getRange("G1").getFormat().setVerticalAlignment(ExcelScript.VerticalAlignment.top);

  output.getRange("G1").getFormat().setIndentLevel(0);

  output.getRange("G1").getFormat().setWrapText(false);

  output.getRange("G1").getFormat().setTextOrientation(0);

  output.getRange("G1").setValue("Gross Profit");

  output.getRange("G:G").getFormat().autofitColumns();

  output.getRange("G2").setFormula("=B2\*F2");

  output.getRange("G2").autoFill("G2:G51", ExcelScript.AutoFillType.fillDefault);

  output.getRange("H1").getFormat().getFill().clear();

  output.getRange("H1").getFormat().getRangeBorder(ExcelScript.BorderIndex.diagonalDown).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("H1").getFormat().getRangeBorder(ExcelScript.BorderIndex.diagonalUp).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("H1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeLeft).setStyle(ExcelScript.BorderLineStyle.continuous);

  output.getRange("H1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeLeft).setWeight(ExcelScript.BorderWeight.thin);

  output.getRange("H1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeTop).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("H1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeBottom).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("H1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeRight).setStyle(ExcelScript.BorderLineStyle.continuous);

  output.getRange("H1").getFormat().getRangeBorder(ExcelScript.BorderIndex.edgeRight).setWeight(ExcelScript.BorderWeight.thin);

  output.getRange("H1").getFormat().getRangeBorder(ExcelScript.BorderIndex.insideVertical).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("H1").getFormat().getRangeBorder(ExcelScript.BorderIndex.insideHorizontal).setStyle(ExcelScript.BorderLineStyle.none);

  output.getRange("H1").getFormat().setHorizontalAlignment(ExcelScript.HorizontalAlignment.center);

  output.getRange("H1").getFormat().setIndentLevel(0);

  output.getRange("H1").getFormat().setVerticalAlignment(ExcelScript.VerticalAlignment.top);

  output.getRange("H1").getFormat().setIndentLevel(0);

  output.getRange("H1").getFormat().setWrapText(false);

  output.getRange("H1").getFormat().setTextOrientation(0);

  output.getRange("H1").setValue("Final Gross Profit");

  output.getRange("H:H").getFormat().autofitColumns();

  output.getRange("H2").setFormula("=IF(F2 > 15, G2 \* 0.9, G2)");

  output.getRange("H2").autoFill("H2:H51", ExcelScript.AutoFillType.fillDefault);

  output.getAutoFilter().apply(output.getAutoFilter().getRange(), 3, { filterOn: ExcelScript.FilterOn.values, values: ["West"] });

  let west\_Region = workbook.addWorksheet("West Region");

  let sheet27 = west\_Region;

  let range = output.getRange("A:F");

  let rowCount = Math.min(range.getRowCount(), 100);

  let columnCount = range.getColumnCount();

  let targetRow = 0;

  for (let i = 0; i < rowCount; i++) {

    if (!range.getRow(i).getHidden()) {

      for (let j = 0; j < columnCount; j++) {

        if (!range.getColumn(j).getHidden()) {

          let value = range.getCell(i, j).getValue();

          sheet27.getCell(targetRow, j).setValue(value);

        }

      }

      targetRow++;

    }

  }

  west\_Region.getRange("C:E").delete(ExcelScript.DeleteShiftDirection.left);

  west\_Region.getRange("C1").setValue("Quantity Sold");

}