Step 1: Data Preparation

1. **Load `Movies.xlsx`** into Power BI Desktop.
2. **Clean missing values** in `Budget` and `Box Office`:
    - Replace with **0** (if meaning no data → zero)
    - Or with **median** (if you want a statistical replacement).
    - Use *Power Query → Transform → Replace Values / Fill.*
3. **Set correct column formats**:
    - `Release Date` → Date
    - `Budget`, `Box Office`, `Profit` → Decimal/Whole Number
    - `Oscars`, `Nominations` → Whole Number
    - `Genre`, `Country`, `Director` → Text

◈ Step 2: Create DATE Table

Use DAX to create a proper **date dimension**:

```
DateTable =
ADDCOLUMNS(
    CALENDARAUTO(),
    "Year", YEAR([Date]),
    "Month", FORMAT([Date], "MMM"),
    "MonthNum", MONTH([Date]),
    "Quarter", "Q" & FORMAT([Date], "Q")
)
```

- Relate `Movies[Release Date]` to `DateTable[Date]`.

◈ Step 3: DAX Calculations

Calculated Columns

```
Profit = Movies[Box Office] - Movies[Budget]

RunTimeCategory =
SWITCH(
    TRUE(),
    Movies[Run Time] < 90, "Short",
    Movies[Run Time] >= 90 && Movies[Run Time] < 120, "Medium",
    Movies[Run Time] >= 120, "Long",
    "Unknown"
)
```

Measures

```
Total Box Office = SUM(Movies[Box Office])

Average Budget = AVERAGE(Movies[Budget])
```

```
Average Margin =
DIVIDE(
    SUM(Movies[Box Office]) - SUM(Movies[Budget]),
    SUM(Movies[Budget])
)

Movies with Oscars = COUNTROWS(FILTER(Movies, Movies[Oscars] > 0))

Top Genre by Box Office =
CALCULATE(
    MAXX(VALUES(Movies[Genre]), SUM(Movies[Box Office]))
)

YoY Box Office Growth =
VAR CurrentYear = SUM(Movies[Box Office])
VAR PrevYear = CALCULATE(SUM(Movies[Box Office]), DATEADD(DateTable[Date], -
1, YEAR))
RETURN DIVIDE(CurrentYear - PrevYear, PrevYear)

Average Nominations per Director =
AVERAGEX(
    VALUES(Movies[Director]),
    AVERAGE(Movies[Nominations])
)
```

◆ Step 4: Dashboard Pages & Visuals

📄 Page 1: Overview Dashboard

- **Cards →**
    - ○ `Total Box Office`
    - ○ `Average Margin` (formatted as %)
    - ○ `Movies with Oscars`
- **Bar Chart** → `Total Box Office by Genre`, stacked by `Certificate`
- **Line Chart** → `Total Box Office` over `Release Year`
- **Slicer** → `Country`, `Release Date (Year)`
- **KPI** → `YoY Box Office Growth`, target = `0%` (green if >0, red if ≤0).

📄 Page 2: Director Analysis

- **Treemap** → `Budget by Director` (size = Budget, color = Oscars)
- **Table** → Columns: Director, `SUM(Nominations)`, `SUM(Oscars)`, Average Nominations per Director
- **Slicer** → `Genre`
- **Donut Chart** → `Run Time Category` (filtered by selected Director)

📄 Page 3: Genre & Country Insights

- **Matrix** → Rows = Genre, Columns = Country, Values = `Total Box Office`
    - ○ Conditional Formatting → Color scale (e.g., Green high, Red low).

- **Pie Chart** → `Box Office Share by Certificate`
- **Word Cloud** → `Genre` (from Marketplace visuals)
- **Slicer** → `Run Time Category`