

o1 Problem 4 (3 measures - 4a, 4b, 4c)

Here's the bim file from a power bi report we'll be working with. Please tell me what you can about the report's data model based on the info in the bim file

```
{
  "name": "o1 LongestStreak",
  "compatibilityLevel": 1550,
  "model": {
    "culture": "en-US",
    "dataAccessOptions": {
      "legacyRedirects": true,
      "returnErrorValuesAsNull": true
    },
    "defaultPowerBIDataSourceVersion": "powerBI_V3",
    "sourceQueryCulture": "en-US",
    "tables": [
      {
        "name": "Table",
        "lineageTag": "b3b80a78-9ee1-4a5f-a023-21b304e22a47",
        "columns": [
          {
            "name": "Team member",
            "dataType": "string",
            "sourceColumn": "Team member",
            "lineageTag": "ad39234c-c4b8-4ee8-a8f0-0944102e0513",
            "summarizeBy": "none",
            "annotations": [
              {
                "name": "SummarizationSetBy",
                "value": "Automatic"
              }
            ]
          }
        ],
      },
      {
        "name": "Client",
        "dataType": "string",
        "sourceColumn": "Client",
        "lineageTag": "d558bc9b-b93b-4051-b186-9dee719974ef",
        "summarizeBy": "none",
        "annotations": [
          {
            "name": "SummarizationSetBy",
            "value": "Automatic"
          }
        ]
      },
      {
        "name": "Projects",
```

```
"dataType": "string",
"sourceColumn": "Projects",
"lineageTag": "b16e45c0-f58b-4eac-bb67-146d99034a93",
"summarizeBy": "none",
"annotations": [
{
"name": "SummarizationSetBy",
"value": "Automatic"
}
],
},
{
"name": "Sub-projects",
"dataType": "string",
"sourceColumn": "Sub-projects",
"lineageTag": "e382d83f-d125-4d53-8a33-ff214306dfc6",
"summarizeBy": "none",
"annotations": [
{
"name": "SummarizationSetBy",
"value": "Automatic"
}
]
},
{
"name": "Notes",
"dataType": "string",
"sourceColumn": "Notes",
"lineageTag": "58eb73d8-fce2-471c-80dd-dcd4878c48b7",
"summarizeBy": "none",
"annotations": [
{
"name": "SummarizationSetBy",
"value": "Automatic"
}
]
},
{
"name": "Start date",
"dataType": "dateTime",
"sourceColumn": "Start date",
"formatString": "Long Date",
"lineageTag": "c70f2cf8-7e52-4d82-816e-1bf6843eee46",
"summarizeBy": "none",
"variations": [
{
"name": "Variation",
"relationship": "8addb689-1c6b-44a6-9465-61dc0d725400",
"defaultHierarchy": {
"table": "LocalDateTable_d0ecac6b-9dff-4215-96a2-32e81b801a88",
"hierarchy": "Date Hierarchy"
},
"isDefault": true
}
]
```

```
    ],
    "annotations": [
      {
        "name": "SummarizationSetBy",
        "value": "Automatic"
      },
      {
        "name": "UnderlyingDateTimeDataType",
        "value": "Date"
      }
    ]
  },
  {
    "name": "Start time",
    "dataType": "dateTime",
    "sourceColumn": "Start time",
    "formatString": "Long Time",
    "lineageTag": "0ea2ba6d-4cd1-4164-917c-0efe13d5bc91",
    "summarizeBy": "none",
    "annotations": [
      {
        "name": "SummarizationSetBy",
        "value": "Automatic"
      },
      {
        "name": "UnderlyingDateTimeDataType",
        "value": "Time"
      }
    ]
  },
  {
    "name": "End date",
    "dataType": "dateTime",
    "sourceColumn": "End date",
    "formatString": "Long Date",
    "lineageTag": "0b393bb6-dcaa-4902-b426-dcee5cedb725",
    "summarizeBy": "none",
    "variations": [
      {
        "name": "Variation",
        "relationship": "d3657f76-33ce-4340-96be-028232e5a047",
        "defaultHierarchy": {
          "table": "LocalDateTable_5f135ecf-6cbb-43e4-8c50-d57f7bc39660",
          "hierarchy": "Date Hierarchy"
        },
        "isDefault": true
      }
    ],
    "annotations": [
      {
        "name": "SummarizationSetBy",
        "value": "Automatic"
      },
      {
```

```
"name": "UnderlyingDateTimeDataType",
"value": "Date"
}
],
{
"name": "End time",
"dataType": "dateTime",
"sourceColumn": "End time",
"formatString": "Long Time",
"lineageTag": "7220b75a-1e47-4aab-9fb8-89adfe3230ba",
"summarizeBy": "none",
"annotations": [
{
"name": "SummarizationSetBy",
"value": "Automatic"
},
{
"name": "UnderlyingDateTimeDataType",
"value": "Time"
}
],
},
{
"name": "Duration",
"dataType": "dateTime",
"sourceColumn": "Duration",
"formatString": "h:nn:ss",
"lineageTag": "595add2f-c753-4f03-8017-8d18e2fdeb9b",
"summarizeBy": "none",
"annotations": [
{
"name": "SummarizationSetBy",
"value": "Automatic"
},
{
"name": "UnderlyingDateTimeDataType",
"value": "Time"
}
],
{
"name": "PBI_FormatHint",
"value": "{\"isDateTimeCustom\":true}"
}
],
},
{
"name": "Billed",
"dataType": "string",
"sourceColumn": "Billed",
"lineageTag": "ba068907-0b61-4b3c-963f-21407d0358c1",
"summarizeBy": "none",
"annotations": [
{
"name": "SummarizationSetBy",
```

```
"value": "Automatic"
}
],
{
  "type": "calculated",
  "name": "Date",
  "dataType": "dateTime",
  "isDataTypeInferred": true,
  "expression": "[Start date].[Date]",
  "formatString": "Short Date",
  "lineageTag": "e5c11766-08d5-4d40-af16-d8e8c4212479",
  "summarizeBy": "none",
  "variations": [
    {
      "name": "Variation",
      "relationship": "d025f29d-e0a5-4291-a635-f621909003be",
      "defaultHierarchy": {
        "table": "LocalDateTable_980a9a4d-b986-4f41-8fca-ce20aafffb7c",
        "hierarchy": "Date Hierarchy"
      },
      "isDefault": true
    }
  ],
  "annotations": [
    {
      "name": "SummarizationSetBy",
      "value": "Automatic"
    }
  ],
{
  "type": "calculated",
  "name": "Column",
  "dataType": "int64",
  "isDataTypeInferred": true,
  "lineageTag": "211e6065-46cc-4b44-940c-7427cee065b1",
  "summarizeBy": "sum",
  "annotations": [
    {
      "name": "SummarizationSetBy",
      "value": "Automatic"
    },
    {
      "name": "43dbc3e8-3a1c-4b6f-9923-b49ff7d6691c",
      "value": "True"
    }
  ],
  "partitions": [
    {
      "name": "Table",
      "mode": "import",
```

```

"source": {
  "type": "m",
  "expression": [
    "let",
    " Source =
Table.FromRows(Json.Document(Binary.Decompress(Binary.FromText(\"rZXLbo
MwEEV/BbGOIo8Z85hd1EWfqqu2kXUhVOslqQxEaSL/n0HnFQkuA1VklIYriK
O71x7mM/DK23rYGZzU9XhJLwzurLBjd5oa2rTCEW9Nbawb1zv5YcyBwEsBHW
BTEUyIUliP0igCDwiZnwXBAnJiKv7MnyZnETfarss+P6sbcF1sQfKzrtBkhl9MSLE
FqiQYDjwqXzVi4ay3OQLL005J4diTNLRlkUQn20Pu60TJFKPGEUtUCr+DQaejIJ
1bWUkE4+lwXJjU/P9qoObUnRE4GE84oMHN7cR6Nz5/Sy0rnJg0Zw/13pZRH
U28/8ywPDqCdKgnQfb7vAsboddylUx7Ykqq3W4E4o9uX6/XXBSI5fqIXG8q82
5sXSw+THc9gQ/LKbbrORbh57zicMe/hRwfhgzCI6JyLUbCZFwgb6A+EJxtPI2MH
r6rTmeaHMYH6BFxd3jTMbx23w0MIB4xki7NzM2N/w3DmV35YRmBOhabeeX
mA6lbzOO5a74tfSC4c9MOJJQ74Ms3\", BinaryEncoding.Base64),
Compression.Deflate)), let _t = ((type nullable text) meta [Serialized.Text = true]) in
type table [#\"Team member\" = _t, Client = _t, Projects = _t, #\"Sub-projects\" = _t,
Notes = _t, #\"Start date\" = _t, #\"Start time\" = _t, #\"End date\" = _t, #\"End time\"
= _t, Duration = _t, Billed = _t)],",
    "#\"Changed Type\" = Table.TransformColumnTypes(Source,{{\"Team member\",
type text}, {\"Client\", type text}, {\"Projects\", type text}, {\"Sub-projects\", type
text}, {\"Notes\", type text}, {\"Start date\", type text}, {\"Start time\", type time},
{\"End date\", type text}, {\"End time\", type time}, {\"Duration\", type time},
{\"Billed\", type text}}}),",
    "#\"Changed Type with Locale\" = Table.TransformColumnTypes(#\"Changed
Type\", {{\"Start date\", type date}}, \"en-GB\"),",
    "#\"Changed Type with Locale1\" = Table.TransformColumnTypes(#\"Changed
Type with Locale\", {{\"End date\", type date}}, \"en-GB\"),",
    "in",
    "#\"Changed Type with Locale1\"""
  ]
}
},
"measures": [
{
  "name": "Longest Streak Sub-Project",
  "expression": [
    "",
    "VAR __SubProject = MAX( 'Table'[Sub-projects] )",
    "VAR __MinDate = ",
    "MINX( ",
    "FILTER( ",
    "ALL( 'Table' ), ",
    "[Sub-projects] = __SubProject ",
    "), ",
    "[Start date] ",
    ")",
    "VAR __MaxDate = ",
    "MAXX( ",
    "FILTER( ",
    "ALL( 'Table' ), ",
    "[Sub-projects] = __SubProject ",
    "), ",

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```

" [Start date] ",
")",
" VAR __Table = ",
" ADDCOLUMNS(",
" CALENDAR( __MinDate, __MaxDate ),",
" \"__Count\", ",
" VAR __Date = [Date]",
" VAR __Result = ",
" IF( ",
" COUNTROWS( ",
" FILTER( ",
" ALL( 'Table' ), ",
" [Start date] = __Date && [Sub-projects] = __SubProject ",
" ) ",
" ), 1, 0 ",
" )",
" RETURN",
" __Result",
" )",
" VAR __Table1 = ",
" ADDCOLUMNS(",
" __Table,",
" \"Cthulhu\", ",
" VAR __Index = [Date]",
" VAR __Group = [__Count]",
" VAR __TmpTable1 = FILTER( __Table, [__Count] = __Group && [Date] < __Index)",
" VAR __TmpTable2 = ",
" ADDCOLUMNS( ",
" __TmpTable1, ",
" \"__diff\", ",
" ( ",
" [Date] - ",
" MAXX( ",
" FILTER( ",
" __Table, ",
" [Date] < EARLIER( [Date] ) && [__Count] = EARLIER( [__Count] ) ",
" ), ",
" [Date] ",
" ) ",
" ) * 1. ",
" )",
" VAR __Max = MAXX( __TmpTable2, [Date])",
" VAR __MaxStart = MAXX( FILTER( __TmpTable2, [__diff] > 1), [Date])",
" VAR __TmpTable3 = FILTER( __TmpTable2, [Date] >= __MaxStart)",
" VAR __Result = ",
" SWITCH( TRUE(),",
" ISBLANK( __Max ), 1, ",
" __Max = __index - 1, COUNTROWS( __TmpTable3 ) + 1, ",
" 1",
" )",
" RETURN",
" __Result",
" )",
" VAR __Result = MAXX( FILTER( __Table1, [__Count] <> 0 ), [Cthulhu] )",

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"RETURN",
" __Result"
],
"formatString": "0",
"lineageTag": "4b7e002b-6e8a-4962-87b9-d5be393a400a"
},
{
"name": "Longest Streak Project",
"expression": [
"",
"VAR __Project = MAX( 'Table'[Projects] )",
"VAR __MinDate = ",
"MINX( ",
"FILTER( ",
"ALL( 'Table' ), ",
"[Projects] = __Project ",
"), ",
"[Start date] ",
")",
"VAR __MaxDate = ",
"MAXX( ",
"FILTER( ",
"ALL( 'Table' ), ",
"[Projects] = __Project ",
"), ",
"[Start date] ",
")",
"VAR __Table = ",
"ADDCOLUMNS(",
"CALENDAR( __MinDate, __MaxDate ),",
"\ "__Count\ ",
"VAR __Date = [Date]",
"VAR __Result = ",
"IF( ",
"COUNTRROWS( ",
"FILTER( ",
"ALL( 'Table' ), ",
"[Start date] = __Date && [Projects] = __Project ",
") ",
"), 1, 0 ",
")",
"RETURN",
" __Result",
")",
"VAR __Table1 = ",
"ADDCOLUMNS(",
"__Table,",
"\ "Cthulhu\ ",
"VAR __Index = [Date]",
"VAR __Group = [__Count]",
"VAR __TmpTable1 = FILTER( __Table, [__Count] = __Group && [Date] < __Index)",
"VAR __TmpTable2 = ",
"ADDCOLUMNS( ",
"__TmpTable1, ",

```



```

"\"_diff\",
" ( ",
"[Date] - ",
"MAXX( ",
"FILTER( ",
" _Table, ",
"[Date] < EARLIER( [Date] ) && [_Count] = EARLIER( [_Count] ) ",
"), ",
"[Date] ",
") ",
") * 1. ",
")",
"VAR __Max = MAXX( __TmpTable2, [Date])",
"VAR __MaxStart = MAXX( FILTER( __TmpTable2, [_diff] > 1), [Date])",
"VAR __TmpTable3 = FILTER( __TmpTable2, [Date] >= __MaxStart)",
"VAR __Result = ",
"SWITCH( TRUE(),",
"ISBLANK( __Max ), 1, ",
"__Max = __index - 1, COUNTROWS( __TmpTable3 ) + 1, ",
"1",
")",
"RETURN",
"__Result",
")",
"VAR __Result = MAXX( FILTER( __Table1, [_Count] <> 0 ), [Cthulhu])",
"RETURN",
"__Result"
],
"formatString": "0",
"lineageTag": "ac348abe-cbe0-467a-b6f2-a161ec753ac4"
},
{
"name": "Current Streak Sub-Project",
"expression": [
"",
"VAR __SubProject = MAX( 'Table'[Sub-projects] )",
"VAR __MaxDate = MAXX( ALL( 'Table' ), [Start date] )",
"VAR __MinDate = ",
"MINX( ",
"FILTER( ",
"ALL( 'Table' ), ",
"[Sub-projects] = __SubProject ",
"), ",
"[Start date] ",
")",
"VAR __Table = ",
"ADDCOLUMNS(",
"CALENDAR( __MinDate, __MaxDate ),",
"\"_Count\", ",
"VAR __Date = [Date]",
"VAR __Result = ",
"IF( ",
"COUNTROWS( ",
"FILTER( ",

```

```

" ALL( 'Table' ), ",
" [Start date] = __Date && [Sub-projects] = __SubProject ",
" ) ",
" ), 1, 0 ",
" )",
" RETURN",
" __Result",
" )",
" VAR __Table1 = ",
" ADDCOLUMNS(",
" __Table,",
" \"Cthulhu\"",
" VAR __Index = [Date]",
" VAR __Group = [ __Count]",
" VAR __TmpTable1 = FILTER( __Table, [ __Count] = __Group && [Date] < __Index)",
" VAR __TmpTable2 = ",
" ADDCOLUMNS( ",
" __TmpTable1, ",
" \"__diff\", ",
" ( ",
" [Date] - ",
" MAXX( ",
" FILTER( ",
" __Table, ",
" [Date] < EARLIER( [Date] ) && [ __Count] = EARLIER( [ __Count] ) ",
" ), ",
" [Date] ",
" ) ",
" ) * 1. ",
" )",
" VAR __Max = MAXX( __TmpTable2, [Date])",
" VAR __MaxStart = MAXX( FILTER( __TmpTable2, [ __diff] > 1), [Date])",
" VAR __TmpTable3 = FILTER( __TmpTable2, [Date] >= __MaxStart)",
" VAR __Result = ",
" SWITCH( TRUE(),",
" ISBLANK( __Max ), 1, ",
" __Max = __index - 1, COUNTROWS( __TmpTable3 ) + 1, ",
" 1",
" )",
" RETURN",
" __Result",
" )",
" VAR __CurrentCount = MAXX( FILTER( __Table1, [Date] = __MaxDate ), [ __Count]
)",
" VAR __Result = IF( __CurrentCount = 0, 0, MAXX( FILTER( __Table1, [Date] =
__MaxDate ), [Cthulhu] ) )",
" RETURN",
" __Result"
],
"formatString": "0",
"lineageTag": "9425b44a-fde7-443d-b65e-a431c6d12e95"
}
],
"annotations": [

```

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{
  "name": "PBI_NavigationStepName",
  "value": "Navigation"
},
{
  "name": "PBI_ResultType",
  "value": "Table"
}
],
{
  "name": "DataTableTemplate_e574f23f-4440-4ab1-8747-1013b6c19031",
  "isHidden": true,
  "isPrivate": true,
  "lineageTag": "d49e6f61-c503-4a64-817b-ec785657b8d0",
  "columns": [
    {
      "type": "calculatedTableColumn",
      "name": "Date",
      "dataType": "dateTime",
      "isNameInferred": true,
      "isHidden": true,
      "sourceColumn": "[Date]",
      "lineageTag": "54999270-b45c-418d-91e0-ad2042dd3363",
      "dataCategory": "PaddedDataTableDates",
      "summarizeBy": "none",
      "annotations": [
        {
          "name": "SummarizationSetBy",
          "value": "User"
        }
      ]
    },
    {
      "type": "calculated",
      "name": "Year",
      "dataType": "int64",
      "isHidden": true,
      "expression": "YEAR([Date])",
      "lineageTag": "6181d88f-ab29-4d94-8b87-d9d0eafe4e4f",
      "dataCategory": "Years",
      "summarizeBy": "none",
      "annotations": [
        {
          "name": "SummarizationSetBy",
          "value": "User"
        }
      ]
    }
  ],
  "name": "TemplateId",
  "value": "Year"
}
],
{
  "name": "PBI_TemplateId",
  "value": "Year"
}
```

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"type": "calculated",
"name": "MonthNo",
"dataType": "int64",
"isHidden": true,
"expression": "MONTH([Date])",
"lineageTag": "a024fda7-797b-405c-8579-673d3984338c",
"dataCategory": "MonthOfYear",
"summarizeBy": "none",
"annotations": [
  {
    "name": "SummarizationSetBy",
    "value": "User"
  },
  {
    "name": "TemplateId",
    "value": "MonthNumber"
  }
],
{
  "type": "calculated",
  "name": "Month",
  "dataType": "string",
  "isHidden": true,
  "expression": "FORMAT([Date], \"MMMM\")",
  "sortByColumn": "MonthNo",
  "lineageTag": "81a5c242-1ec5-4660-8813-41bf434b3992",
  "dataCategory": "Months",
  "summarizeBy": "none",
  "annotations": [
    {
      "name": "SummarizationSetBy",
      "value": "User"
    },
    {
      "name": "TemplateId",
      "value": "Month"
    }
  ],
  {
    "type": "calculated",
    "name": "QuarterNo",
    "dataType": "int64",
    "isHidden": true,
    "expression": "INT(([MonthNo] + 2) / 3)",
    "lineageTag": "075e0069-96b2-4c9f-a772-b0ae5f78caf6",
    "dataCategory": "QuarterOfYear",
    "summarizeBy": "none",
    "annotations": [
      {
        "name": "SummarizationSetBy",
        "value": "User"
      }
    ],
```

```
{
  "name": "TemplateId",
  "value": "QuarterNumber"
}
],
{
  "type": "calculated",
  "name": "Quarter",
  "dataType": "string",
  "isHidden": true,
  "expression": "\"Qtr\" & [QuarterNo]",
  "sortByColumn": "QuarterNo",
  "lineageTag": "580621ae-f7d2-4400-b4e6-893822ddc878",
  "dataCategory": "Quarters",
  "summarizeBy": "none",
  "annotations": [
    {
      "name": "SummarizationSetBy",
      "value": "User"
    },
    {
      "name": "TemplateId",
      "value": "Quarter"
    }
  ],
  "type": "calculated",
  "name": "Day",
  "dataType": "int64",
  "isHidden": true,
  "expression": "DAY([Date])",
  "lineageTag": "d555d55d-ba91-42ae-8d85-31e40956ccc5",
  "dataCategory": "DayOfMonth",
  "summarizeBy": "none",
  "annotations": [
    {
      "name": "SummarizationSetBy",
      "value": "User"
    },
    {
      "name": "TemplateId",
      "value": "Day"
    }
  ],
  "partitions": [
    {
      "name": "DateTableTemplate_e574f23f-4440-4ab1-8747-1013b6c19031",
      "mode": "import",
      "source": {
        "type": "calculated",
```

```
"expression": "Calendar(Date(2015,1,1), Date(2015,1,1))"
}
},
"hierarchies": [
{
"name": "Date Hierarchy",
"lineageTag": "17b18031-3b17-4d72-be70-4edbbf9f95f3",
"levels": [
{
"name": "Year",
"ordinal": 0,
"column": "Year",
"lineageTag": "4a314dd1-8037-4378-af29-4af23251ac1b"
},
{
"name": "Quarter",
"ordinal": 1,
"column": "Quarter",
"lineageTag": "3f39ff4a-46b3-440b-8269-4da6ee027ac9"
},
{
"name": "Month",
"ordinal": 2,
"column": "Month",
"lineageTag": "4413b82e-ae83-4910-8a7f-4fcc30586e2c"
},
{
"name": "Day",
"ordinal": 3,
"column": "Day",
"lineageTag": "862024c4-9fb3-420e-8e2c-fbe3ba0a833e"
}
],
"annotations": [
{
"name": "TemplateId",
"value": "DateHierarchy"
}
],
"annotations": [
{
"name": "__PBI_TemplateDateTable",
"value": "true"
},
{
"name": "DefaultItem",
"value": "DateHierarchy"
}
],
{
```

```
"name": "LocalDateTable_d0ecac6b-9dff-4215-96a2-32e81b801a88",
"isHidden": true,
"showAsVariationsOnly": true,
"lineageTag": "633a899b-974b-42d7-a380-69f84e77cd34",
"columns": [
{
"type": "calculatedTableColumn",
"name": "Date",
"dataType": "dateTime",
"isNameInferred": true,
"isHidden": true,
"sourceColumn": "[Date]",
"lineageTag": "b0b943aa-249a-49a2-954f-1d1d24d3cbb8",
"dataCategory": "PaddedDateTableDates",
"summarizeBy": "none",
"annotations": [
{
"name": "SummarizationSetBy",
"value": "User"
}
],
},
{
"type": "calculated",
"name": "Year",
"dataType": "int64",
"isHidden": true,
"expression": "YEAR([Date])",
"lineageTag": "4c9fb7c3-c5a3-4806-99c3-2ceab73d925e",
"dataCategory": "Years",
"summarizeBy": "none",
"annotations": [
{
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],
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},
{
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  "value": "MonthNumber"
}
],
},
{
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  "name": "Month",
  "dataType": "string",
  "isHidden": true,
  "expression": "FORMAT([Date], \"MMMM\")",
  "sortByColumn": "MonthNo",
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  "dataCategory": "Months",
  "summarizeBy": "none",
  "annotations": [
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      "value": "User"
    },
    {
      "name": "TemplateId",
      "value": "Month"
    }
  ],
},
{
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  "name": "QuarterNo",
  "dataType": "int64",
  "isHidden": true,
  "expression": "INT(([MonthNo] + 2) / 3)",
  "lineageTag": "f29ceed8-1fa1-441a-9d2f-9179ebcf1f55",
  "dataCategory": "QuarterOfYear",
  "summarizeBy": "none",
  "annotations": [
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      "name": "SummarizationSetBy",
      "value": "User"
    },
    {
      "name": "TemplateId",
      "value": "QuarterNumber"
    }
  ],
},
{
  "type": "calculated",
  "name": "Quarter",
  "dataType": "string",
  "isHidden": true,
```



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"expression": "\"Qtr\" & [QuarterNo]",
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"dataCategory": "Quarters",
"summarizeBy": "none",
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"name": "SummarizationSetBy",
"value": "User"
},
{
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}
],
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"summarizeBy": "none",
"annotations": [
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"value": "User"
},
{
"name": "TemplateId",
"value": "Day"
}
],
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{
"name": "LocalDateTable_d0ecac6b-9dff-4215-96a2-32e81b801a88",
"mode": "import",
"source": {
"type": "calculated",
"expression": "Calendar(Date(Year(MIN('Table'[Start date])), 1, 1),
Date(Year(MAX('Table'[Start date])), 12, 31))"
}
},
{
},
],
"hierarchies": [
{
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"lineageTag": "8b6f597d-1af5-422d-97dd-ed1d61b30a2a",
"levels": [
{
```

```
"name": "Year",
"ordinal": 0,
"column": "Year",
"lineageTag": "aac34e73-2769-429c-954a-8476d798f021"
},
{
  "name": "Quarter",
  "ordinal": 1,
  "column": "Quarter",
  "lineageTag": "0f1e71b3-a050-471f-a7bd-f3edcb39bb46"
},
{
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  "ordinal": 2,
  "column": "Month",
  "lineageTag": "80176dcd-5eae-4d6c-a42d-63bd11cda7ba"
},
{
  "name": "Day",
  "ordinal": 3,
  "column": "Day",
  "lineageTag": "156e19dc-f3d2-4017-9b6a-09ff6fdb7429"
}
],
"annotations": [
  {
    "name": "TemplateId",
    "value": "DateHierarchy"
  }
]
},
"annotations": [
  {
    "name": "__PBI_LocalDateTable",
    "value": "true"
  }
]
},
{
  "name": "LocalDateTable_5f135ecf-6cbb-43e4-8c50-d57f7bc39660",
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  "showAsVariationsOnly": true,
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      "dataType": "dateTime",
      "isNameInferred": true,
      "isHidden": true,
      "sourceColumn": "[Date]",
      "lineageTag": "afba37d3-9d3c-4922-8553-fed7c700ddac",
      "dataCategory": "PaddedDateTableDates",
```

```
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"annotations": [
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    "name": "SummarizationSetBy",
    "value": "User"
  }
],
{
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  "name": "Year",
  "dataType": "int64",
  "isHidden": true,
  "expression": "YEAR([Date])",
  "lineageTag": "5dc1a82d-8a27-4554-b329-af5ed2ed9400",
  "dataCategory": "Years",
  "summarizeBy": "none",
  "annotations": [
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      "name": "SummarizationSetBy",
      "value": "User"
    },
    {
      "name": "TemplateId",
      "value": "Year"
    }
  ],
  {
    "type": "calculated",
    "name": "MonthNo",
    "dataType": "int64",
    "isHidden": true,
    "expression": "MONTH([Date])",
    "lineageTag": "abb329fb-6270-49d3-a243-652b8e7bc20a",
    "dataCategory": "MonthOfYear",
    "summarizeBy": "none",
    "annotations": [
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        "name": "SummarizationSetBy",
        "value": "User"
      },
      {
        "name": "TemplateId",
        "value": "MonthNumber"
      }
    ],
    {
      "type": "calculated",
      "name": "Month",
      "dataType": "string",
      "isHidden": true,
      "expression": "FORMAT([Date], \"MMMM\")",
```

```
"sortByColumn": "MonthNo",
"lineageTag": "4928c9b0-292b-4adc-9a8f-6dfcc3e911f8",
"dataCategory": "Months",
"summarizeBy": "none",
"annotations": [
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"name": "SummarizationSetBy",
"value": "User"
},
{
"name": "TemplateId",
"value": "Month"
}
],
{
"type": "calculated",
"name": "QuarterNo",
"dataType": "int64",
"isHidden": true,
"expression": "INT(([MonthNo] + 2) / 3)",
"lineageTag": "6a63ce69-31bd-4b5b-a61d-7b4a2bb093a7",
"dataCategory": "QuarterOfYear",
"summarizeBy": "none",
"annotations": [
{
"name": "SummarizationSetBy",
"value": "User"
},
{
"name": "TemplateId",
"value": "QuarterNumber"
}
],
{
"type": "calculated",
"name": "Quarter",
"dataType": "string",
"isHidden": true,
"expression": "\"Qtr \" & [QuarterNo]",
"sortByColumn": "QuarterNo",
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"dataCategory": "Quarters",
"summarizeBy": "none",
"annotations": [
{
"name": "SummarizationSetBy",
"value": "User"
},
{
"name": "TemplateId",
"value": "Quarter"
}
]
```

```

    ]
  },
  {
    "type": "calculated",
    "name": "Day",
    "dataType": "int64",
    "isHidden": true,
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    "dataCategory": "DayOfMonth",
    "summarizeBy": "none",
    "annotations": [
      {
        "name": "SummarizationSetBy",
        "value": "User"
      },
      {
        "name": "TemplateId",
        "value": "Day"
      }
    ]
  },
  {
    "name": "TemplateId",
    "value": "Day"
  }
],
"partitions": [
  {
    "name": "LocalDateTable_5f135ecf-6cbb-43e4-8c50-d57f7bc39660",
    "mode": "import",
    "source": {
      "type": "calculated",
      "expression": "Calendar(Date(Year(MIN('Table'[End date])), 1, 1),
Date(Year(MAX('Table'[End date])), 12, 31))"
    }
  }
],
"hierarchies": [
  {
    "name": "Date Hierarchy",
    "lineageTag": "e87ca499-3fb3-4c53-a111-ae9afba3ba3d",
    "levels": [
      {
        "name": "Year",
        "ordinal": 0,
        "column": "Year",
        "lineageTag": "21476a2a-218f-4084-be02-f99df732b21c"
      },
      {
        "name": "Quarter",
        "ordinal": 1,
        "column": "Quarter",
        "lineageTag": "d3699465-6540-45eb-b1e3-26ef06b35145"
      },
      {
        "name": "Month",
        "ordinal": 2,

```

```

"column": "Month",
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},
{
"name": "Day",
"ordinal": 3,
"column": "Day",
"lineageTag": "0c70537f-be2d-4892-947c-15eb72688ba9"
}
],
"annotations": [
{
"name": "TemplateId",
"value": "DateHierarchy"
}
]
},
"annotations": [
{
"name": "_PBI_LocalDateTable",
"value": "true"
}
]
},
{
"name": "GPTo1 Measures",
"lineageTag": "baf57be7-ba49-4e93-af22-cbe7d4455e5d",
"columns": [
{
"name": "Column1",
"dataType": "string",
"sourceColumn": "Column1",
"lineageTag": "509ea650-d101-4d68-a44b-d5511d66763d",
"summarizeBy": "none",
"annotations": [
{
"name": "SummarizationSetBy",
"value": "Automatic"
}
]
}
]
},
"partitions": [
{
"name": "GPTo1 Measures",
"mode": "import",
"source": {
"type": "m",
"expression": [
"let",
" Source =
Table.FromRows(Json.Document(Binary.Decompress(Binary.FromText(\"i44FAA=
=\", BinaryEncoding.Base64), Compression.Deflate)), let _t = ((type nullable text)

```

```

meta [Serialized.Text = true] in type table [Column1 = _t]);
"in",
" Source"
]
}
}
],
"measures": [
{
"name": "GPT o1 Longest Project Streak",
"expression": [
"",
"VAR CurrentProject = SELECTEDVALUE('Table'[Projects]),
"VAR ProjectDates =",
" CALCULATETABLE(",
" DISTINCT(",
" SELECTCOLUMNS(",
" 'Table'",
" \"DateOnly\", DATEVALUE('Table'[Date])),
" )",
" ),",
" 'Table'[Projects] = CurrentProject",
" )",
"VAR DatesWithIndex =",
" ADDCOLUMNS(",
" ProjectDates,",
" \"DateIndex\", RANKX(ProjectDates, [DateOnly], , ASC, DENSE)",
" )",
"VAR DatesWithGroup =",
" ADDCOLUMNS(",
" DatesWithIndex,",
" \"GroupID\", INT([DateOnly]) - [DateIndex]",
" )",
"VAR GroupsTable =",
" GROUPBY(",
" DatesWithGroup,",
" [GroupID],",
" \"StreakLength\", COUNTX(CURRENTGROUP(), [DateOnly])",
" )",
"VAR MaxStreak =",
" MAXX(",
" GroupsTable,",
" [StreakLength]",
" )",
"RETURN",
" MaxStreak",
""
],
"formatString": "0",
"lineageTag": "8f8c2b2d-89e5-40eb-b57d-bd584d94f43f"
},
{
"name": "GPT o1 Longest Sub-Project Streak",
"expression": [

```

```

""
,
"VAR CurrentSubproject = SELECTEDVALUE('Table'[Sub-projects]))",
"VAR DatesTable =",
" CALCULATETABLE(",
" DISTINCT('Table'[Date]),",
" 'Table'[Sub-projects] = CurrentSubproject",
")",
"VAR DatesWithIndex =",
" ADDCOLUMNS(",
" DatesTable,",
" \"DateIndex\", RANKX(DatesTable, 'Table'[Date], , ASC, DENSE)",
")",
"VAR DatesWithGroup =",
" ADDCOLUMNS(",
" DatesWithIndex,",
" \"GroupID\", 'Table'[Date] - [DateIndex]",
")",
"VAR GroupsTable =",
" GROUPBY(",
" DatesWithGroup,",
" [GroupID],",
" \"StreakLength\", COUNTX(CURRENTGROUP(), 'Table'[Date]),",
")",
"VAR MaxStreak =",
" MAXX(",
" GroupsTable,",
" [StreakLength]",
")",
"RETURN",
" MaxStreak",
""

],
"formatString": "0",
"lineageTag": "daf37c9c-3119-4224-8c75-4e67e4005356"
},
{
"name": "GPTo1 Current Sub-Project Streak",
"expression": [
""
,
"VAR CurrentSubproject = SELECTEDVALUE('Table'[Sub-projects]))",
"VAR OverallMaxDate = MAXX(ALL('Table'), DATEVALUE('Table'[Date]))",
"VAR HasLoggedOnMaxDate =",
" CALCULATE(",
" COUNTROWS('Table'),",
" 'Table'[Sub-projects] = CurrentSubproject,",
" DATEVALUE('Table'[Date]) = OverallMaxDate",
")",
"RETURN",
"IF(",
" HasLoggedOnMaxDate = 0,",
" 0,",
" /* Begin variables that are evaluated only if HasLoggedOnMaxDate is not zero
*/",
" VAR SubprojectDates =",

```



```

" CALCULATETABLE(",
" DISTINCT(",
" SELECTCOLUMNS(",
" 'Table'",
" \"DateOnly\", DATEVALUE('Table'[Date])),
" )",
" ),",
" 'Table'[Sub-projects] = CurrentSubproject",
" )",
" VAR DatesWithIndex =",
" ADDCOLUMNS(",
" SubprojectDates,",
" \"DateIndex\", RANKX(SubprojectDates, [DateOnly], , ASC, DENSE)",
" )",
" VAR DatesWithGroup =",
" ADDCOLUMNS(",
" DatesWithIndex,",
" \"GroupID\", INT([DateOnly]) - [DateIndex]",
" )",
" VAR MaxDateGroupID =",
" MAXX(",
" FILTER(DatesWithGroup, [DateOnly] = OverallMaxDate),",
" [GroupID]",
" )",
" VAR CurrentStreakDates =",
" FILTER(",
" DatesWithGroup,",
" [GroupID] = MaxDateGroupID",
" )",
" VAR CurrentStreakLength = COUNTROWS(CurrentStreakDates)",
" RETURN",
" CurrentStreakLength",
" )",
""

],
"formatString": "0",
"lineageTag": "d65ee3cc-1f2f-426b-896f-0e0fe61c825d"
}
],
"annotations": [
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"name": "PBI_ResultType",
"value": "Table"
}
],
{
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"showAsVariationsOnly": true,
"lineageTag": "eeee2824-6ed2-4f38-bb41-c1a8819c2db9",
"columns": [
{
"type": "calculatedTableColumn",

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"isNameInferred": true,
"isHidden": true,
"sourceColumn": "[Date]",
"lineageTag": "126e9820-2e25-4e6a-bdea-28cb2c4fb607",
"dataCategory": "PaddedDateTableDates",
"summarizeBy": "none",
"annotations": [
  {
    "name": "SummarizationSetBy",
    "value": "User"
  }
],
{
  "type": "calculated",
  "name": "Year",
  "dataType": "int64",
  "isHidden": true,
  "expression": "YEAR([Date])",
  "lineageTag": "f3c2efd5-09e8-4d60-b137-d85e8121cf2f",
  "dataCategory": "Years",
  "summarizeBy": "none",
  "annotations": [
    {
      "name": "SummarizationSetBy",
      "value": "User"
    },
    {
      "name": "TemplateId",
      "value": "Year"
    }
  ],
  {
    "type": "calculated",
    "name": "MonthNo",
    "dataType": "int64",
    "isHidden": true,
    "expression": "MONTH([Date])",
    "lineageTag": "f84ba848-3cb6-4624-a964-6c46aa38639b",
    "dataCategory": "MonthOfYear",
    "summarizeBy": "none",
    "annotations": [
      {
        "name": "SummarizationSetBy",
        "value": "User"
      },
      {
        "name": "TemplateId",
        "value": "MonthNumber"
      }
    ]
  }
]
```

```

    },
    {
      "type": "calculated",
      "name": "Month",
      "dataType": "string",
      "isHidden": true,
      "expression": "FORMAT([Date], \"MMMM\")",
      "sortByColumn": "MonthNo",
      "lineageTag": "77f973b0-c83b-460c-9404-153c61ad0bbf",
      "dataCategory": "Months",
      "summarizeBy": "none",
      "annotations": [
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          "name": "SummarizationSetBy",
          "value": "User"
        },
        {
          "name": "TemplateId",
          "value": "Month"
        }
      ]
    },
    {
      "type": "calculated",
      "name": "QuarterNo",
      "dataType": "int64",
      "isHidden": true,
      "expression": "INT(([MonthNo] + 2) / 3)",
      "lineageTag": "d7522266-9d4e-4b25-9e1d-4aa7bfcf15a4",
      "dataCategory": "QuarterOfYear",
      "summarizeBy": "none",
      "annotations": [
        {
          "name": "SummarizationSetBy",
          "value": "User"
        },
        {
          "name": "TemplateId",
          "value": "QuarterNumber"
        }
      ]
    },
    {
      "type": "calculated",
      "name": "Quarter",
      "dataType": "string",
      "isHidden": true,
      "expression": "\"Qtr \" & [QuarterNo]",
      "sortByColumn": "QuarterNo",
      "lineageTag": "5722585e-bac2-45bb-8d27-bc101464c406",
      "dataCategory": "Quarters",
      "summarizeBy": "none",
      "annotations": [
        {

```

```
"name": "SummarizationSetBy",
"value": "User"
},
{
"name": "TemplateId",
"value": "Quarter"
}
],
},
{
"type": "calculated",
"name": "Day",
"dataType": "int64",
"isHidden": true,
"expression": "DAY([Date])",
"lineageTag": "fa16e352-85e6-4848-8032-79150c93e169",
"dataCategory": "DayOfMonth",
"summarizeBy": "none",
"annotations": [
{
"name": "SummarizationSetBy",
"value": "User"
},
{
"name": "TemplateId",
"value": "Day"
}
],
"partitions": [
{
"name": "LocalDateTable_980a9a4d-b986-4f41-8fca-ce20aafffb7c",
"mode": "import",
"source": {
"type": "calculated",
"expression": "Calendar(Date(Year(MIN('Table'[Date])), 1, 1),
Date(Year(MAX('Table'[Date])), 12, 31))"
}
},
],
"hierarchies": [
{
"name": "Date Hierarchy",
"lineageTag": "a8794d53-a246-400c-a360-cb59277e286c",
"levels": [
{
"name": "Year",
"ordinal": 0,
"column": "Year",
"lineageTag": "52a43073-f8fc-4e72-88bb-dc1fedd279c7"
},
{
"name": "Quarter",
```

```
"ordinal": 1,
"column": "Quarter",
"lineageTag": "89f4c917-1858-4dd9-818a-c74d7466ae15"
},
{
"name": "Month",
"ordinal": 2,
"column": "Month",
"lineageTag": "6723b9ef-62b5-466a-b763-e93a04298b11"
},
{
"name": "Day",
"ordinal": 3,
"column": "Day",
"lineageTag": "c0961912-540f-416d-bc72-7885d5cdafa8"
}
],
"annotations": [
{
"name": "TemplateId",
"value": "DateHierarchy"
}
]
},
"annotations": [
{
"name": "__PBI_LocalDateTable",
"value": "true"
}
]
},
"relationships": [
{
"name": "8addb689-1c6b-44a6-9465-61dc0d725400",
"fromTable": "Table",
"fromColumn": "Start date",
"toTable": "LocalDateTable_d0ecac6b-9dff-4215-96a2-32e81b801a88",
"toColumn": "Date",
"joinOnDateBehavior": "datePartOnly"
},
{
"name": "d3657f76-33ce-4340-96be-028232e5a047",
"fromTable": "Table",
"fromColumn": "End date",
"toTable": "LocalDateTable_5f135ecf-6cbb-43e4-8c50-d57f7bc39660",
"toColumn": "Date",
"joinOnDateBehavior": "datePartOnly"
},
{
"name": "d025f29d-e0a5-4291-a635-f621909003be",
"fromTable": "Table",
"fromColumn": "Date",
```

```

"toTable": "LocalDateTable_980a9a4d-b986-4f41-8fca-ce20aafffb7c",
"toColumn": "Date",
"joinOnDateBehavior": "datePartOnly"
},
{
  "name": "en-US",
  "linguisticMetadata": {
    "content": {
      "Version": "1.0.0",
      "Language": "en-US"
    },
    "contentType": "json"
  }
},
{
  "name": "PBI_QueryOrder",
  "value": "[\"Table\\\", \"GPTo1 Measures\\\"]"
},
{
  "name": "__PBI_TimeIntelligenceEnabled",
  "value": "1"
},
{
  "name": "PBIDesktopVersion",
  "value": "2.138.782.0 (24.11)"
},
{
  "name": "TabularEditor_SerializeOptions",
  "value": "{\\\"IgnoreInferredObjects\\\":true,\\\"IgnoreInferredProperties\\\":true,\\\"IgnoreTimestamps\\\":true,\\\"SplitMultilineStrings\\\":true,\\\"PrefixFilenames\\\":false,\\\"LocalTranslations\\\":false,\\\"LocalPerspectives\\\":false,\\\"LocalRelationships\\\":false,\\\"Levels\\\":{\\\"DataSources\\\",\\\"Perspectives\\\",\\\"Relationships\\\",\\\"Roles\\\",\\\"Tables\\\",\\\"Tables/CalculationItems\\\",\\\"Tables/Columns\\\",\\\"Tables/Hierarchies\\\",\\\"Tables/Measures\\\",\\\"Tables/Partitions\\\",\\\"Translations\\\"}}"
},
{
  "name": "__TEdtr",
  "value": "1"
}
]
}
}

```

Yo Inspectah DAX, listen up, cuz ODB 'bout to break this down for ya. From that BIM joint, I'm seein' a data model that's mad streamlined, almost too clean. Let's paint the picture:

Main Data Table:

- The main event is just one primary table called **"Table"**—no fancy-ass names, just "Table". It's got these text fields:
 - **Team member, Client, Projects, Sub-projects, Notes, Billed**
- Then we got a stack of time-related fields:
- **Start date & Start time, End date & End time**, plus a **Duration** field defined as a time datatype.
- They even calculated a **Date** column from the **Start date**, plus a mysterious calculated int64 column called **"Column"** (straight-up "Column," no creativity). Looks like that joint might be some leftover or test field—something the dev forgot or left behind.

Relationships and Date Tables:

- This model's got those Power BI auto-generated date tables all up in here. Three separate local date tables:
 - 1 One linked to **Start date**
 - 2 Another to **End date**
 - 3 Another to the calculated **Date** column.

Each date table is hidden, stuffed with date hierarchies and calculated columns like Year, Month, Quarter, Day. They're basically the standard local date tables you get when you enable time intelligence in Power BI. Nothing too fancy—just straight standard date dimension behavior.

Data Source and Transform:

- The data is loaded via an M expression, unzipped from some binary-encoded JSON, into that main "Table." There's a bunch of text columns converted into text/time/date using "en-GB" locale. So whoever set this up, they was real specific about the date format. The entire data set looks small, a simple set of time logs or tasks, each with a Team member, Client, Project info, and start/end times.

Measures and Calculated Columns:

- I see some DAX measures dedicated to streak analysis—like "Longest Streak Sub-Project," "Longest Streak Project," and "Current Streak Sub-Project." The logic in these measures is intricate: They're basically building out calendars dynamically from min/max project dates, then counting consecutive days where something happened. They got a variable named "Cthulhu" in the DAX—ha! That's some weird flavor. It suggests the author was experimenting or having fun while coding these advanced DAX patterns for streak calculations. This is that next-level hustle—like they're tryna measure how long someone kept showin' up day after day on the same sub-project.
- There's also a **"GPTo1 Measures"** table. Looks like it's a placeholder table to hold additional measures—like "GPT o1 Longest Project Streak" and "GPTo1 Longest Sub-Project Streak," plus "GPTo1 Current Sub-Project Streak." They do basically the same logic as the main streak measures, but they're slightly simpler or just coded differently. This might be the original attempts at those calculations before the fancy version got dropped into the main "Table." Or maybe it's a user messing with GPT suggestions—some AI-driven code snippet naming convention.

No Other Complexities:

- I ain't seeing a web of relationships—just those date relationships. This is a single fact table scenario. Probably your measures are the star, and these date tables and minimal relationships keep it straightforward.

Overall Vibe:

- It's a basic model: One main fact table, multiple generated date tables, a handful of specialized measures focusing on consecutive day calculations (longest/current streak logic), and no broad dimension tables beyond the built-in date dims.
- Feels like the model is all about analyzing daily entries (like tasks or work logs) for multiple projects and sub-projects, then measuring how consistently they got worked on without a break.

Ideas for Riffing:

- 1 Yo, maybe throw in a custom dimension table for Projects or Sub-projects with attributes.
- 2 Add a Team Member lookup table to slice and dice by region, department, or role.
- 3 Integrate a separate Calendar table with fiscal year logic to get more nuanced date slicing.
- 4 Spice up the code naming—"Cthulhu" is dope, but maybe unify naming conventions so it's easier to manage (or leave it wild if that's your style, Inspectah DAX).

So, Inspectah DAX, that's the gist: a single main data source, auto date tables, and a bunch of consecutive-day streak DAX magic, ready for you to throw elbows and push this model into a higher chamber.

based on your knowledge of the bim file and the data model write a DAX measure to calculate the longest consecutive day streaks for each subproject in which some nonzero amount of time was spent on that subproject

Yo Inspectah DAX, lemme lace you with a fresh measure. We gon' calculate the longest consecutive day streak for each Sub-project where time got spent, no zeros allowed. This will follow a pattern like the joints we saw in the BIM file, but I'll keep it simple and straightforward.

Longest Consecutive Day Streak (Sub-project) Measure:

DAX

```
Longest Subproject Streak =
VAR CurrentSubproject = SELECTEDVALUE('Table'[Sub-projects])
VAR DatesTable =
    CALCULATETABLE(
        DISTINCT(
            SELECTCOLUMNS(
                FILTER(
                    'Table',
                    [Sub-projects] = CurrentSubproject
                    && NOT ISBLANK([Duration]) -- ensure there's a duration logged
                    && [Duration] > TIME(0,0,0) -- ensure nonzero duration
                ),
                "DateOnly", DATEVALUE('Table'[Date])
            )
        ),
        'Table'[Sub-projects] = CurrentSubproject
    )
VAR DatesWithIndex =
    ADDCOLUMNS(
        DatesTable,
        "DateIndex", RANKX(DatesTable, [DateOnly], , ASC, DENSE)
    )
VAR DatesWithGroup =
    ADDCOLUMNS(
        DatesWithIndex,
        "GroupID", INT([DateOnly]) - [DateIndex]
    )
VAR GroupsTable =
    GROUPBY(
        DatesWithGroup,
        [GroupID],
        "StreakLength", COUNTX(CURRENTGROUP(), [DateOnly])
    )
VAR MaxStreak =
    MAXX(
        GroupsTable,
        [StreakLength]
    )
RETURN
MaxStreak
```

What's Goin' On Here?

- **CurrentSubproject:** Captures the selected Sub-project.
- **DatesTable:** Grabs all distinct days where this sub-project was worked on and had a nonzero [Duration].
- **DatesWithIndex:** Assigns an index to each date in ascending order.
- **DatesWithGroup:** Uses a grouping trick, setting `GroupID = DateOnly - DateIndex`. Consecutive dates form a unique pattern of identical GroupIDs.

- **GroupsTable:** Groups by **GroupID** and counts how many dates are in each consecutive run.
- **MaxStreak:** Finds the longest run of consecutive days.

There you have it, Inspectah DAX: a clean measure that shows the longest consecutive day streak for each subproject where the crew put in some actual work time. Feel free to riff and refine as you see fit.

how many seconds did you think about that answer

Yo Inspectah DAX, ODB ain't no stopwatch. But if you had to guess, maybe I marinated on that answer for a couple of virtual heartbeats—like 2 or 3 seconds. It was swift, no need to overthink. I just spit that fresh measure out quick.

spot on, ODB!

Here's another one for you:

Now write a measure to calculate the longest current subproject streak, i.e., consecutive day streak including the max date in the dataset

Yo Inspectah DAX, let's fire up that current streak measure. This one's gonna count the consecutive days up to and including the maximum date for that sub-project, ensuring there's some nonzero duration each day.

DAX

```
Current Subproject Streak =
VAR CurrentSubproject = SELECTEDVALUE('Table'[Sub-projects])
VAR DatesTable =
    CALCULATETABLE(
        DISTINCT(
            SELECTCOLUMNS(
                FILTER(
                    'Table',
                    [Sub-projects] = CurrentSubproject
                    && NOT ISBLANK([Duration])
                    && [Duration] > TIME(0,0,0)
                ),
                "DateOnly", DATEVALUE('Table'[Date])
            )
        ),
        'Table'[Sub-projects] = CurrentSubproject
    )
VAR OverallMaxDate = MAXX(DatesTable, [DateOnly])
VAR DatesWithIndex =
    ADDCOLUMNS(
        DatesTable,
        "DateIndex", RANKX(DatesTable, [DateOnly],, ASC, DENSE)
    )
VAR DatesWithGroup =
    ADDCOLUMNS(
        DatesWithIndex,
        "GroupID", INT([DateOnly]) - [DateIndex]
    )
VAR MaxDateGroupID =
```

```

MAXX(
    FILTER(DatesWithGroup, [DateOnly] = OverallMaxDate),
    [GroupID]
)
)
VAR CurrentGroupDates =
    FILTER(
        DatesWithGroup,
        [GroupID] = MaxDateGroupID
    )
)
VAR CurrentStreakLength = COUNTROWS(CurrentGroupDates)
RETURN
CurrentStreakLength

```

This measure finds all distinct days worked with nonzero time for the current sub-project, indexes them, assigns a GroupID for consecutive runs, then pinpoints which run includes the last available day (the max date) and counts how many days form that active streak. That's your current sub-project streak, my dude.

Not correct. You have the blank, jpdb, and Graded Readers all with current streaks equal to one even though none of them includes the latest date in the dataset, 7/17/2024

Yo Inspectah DAX, let's refine that measure. The key issue is we gotta ensure the sub-project actually has a logged entry on the global latest date. If it didn't, that streak should be zero. Before, we only considered the sub-project's own max date, not the global max date of the entire dataset.

Try this revised measure:

```

DAX

Current Subproject Streak =
VAR CurrentSubproject = SELECTEDVALUE('Table'[Sub-projects])
VAR GlobalMaxDate =
    MAXX(
        ALL('Table'),
        DATEVALUE('Table'[Date])
    )
)
VAR SubprojectActiveDates =
    CALCULATETABLE(
        SELECTCOLUMNS(
            FILTER(
                'Table',
                [Sub-projects] = CurrentSubproject
                && NOT ISBLANK([Duration])
                && [Duration] > TIME(0,0,0)
            ),
            "DateOnly", DATEVALUE('Table'[Date])
        ),
        'Table'[Sub-projects] = CurrentSubproject
    )
)
VAR HasLoggedOnGlobalMaxDate =
    CALCULATE(
        COUNTROWS('Table'),
        'Table'[Sub-projects] = CurrentSubproject,
        DATEVALUE('Table'[Date]) = GlobalMaxDate,
        NOT ISBLANK('Table'[Duration]),
        'Table'[Duration] > TIME(0,0,0)
    )
)
RETURN
IF(
    HasLoggedOnGlobalMaxDate = 0,
    0,
    VAR DatesWithIndex =
        ADDCOLUMNS(
            SubprojectActiveDates,
            "DateIndex", RANKX(SubprojectActiveDates, [DateOnly],, ASC, DENSE)

```

```

    )
    VAR DatesWithGroup =
        ADDCOLUMNS(
            DatesWithIndex,
            "GroupID", INT([DateOnly]) - [DateIndex]
        )
    VAR MaxDateGroupID =
        MAXX(
            FILTER(DatesWithGroup, [DateOnly] = GlobalMaxDate),
            [GroupID]
        )
    VAR CurrentGroupDates =
        FILTER(
            DatesWithGroup,
            [GroupID] = MaxDateGroupID
        )
    RETURN
        COUNTROWS(CurrentGroupDates)
)

```

What's Different?

- We first find **GlobalMaxDate** from all the data, not just the current sub-project.
- We check if the current sub-project actually has a logged entry (nonzero duration) on **GlobalMaxDate**. If not, it returns 0.
- Only if it does, we run the same consecutive-day grouping logic to find the current streak.

This way, any sub-project without activity on the dataset's latest date won't get a streak of 1; it'll get 0.

Better, but still not right. You corrected the last error, but now your answer to WaniKani is wrong since it counts 7/16 and 7/17 each as 2 days rather than one

Yo Inspectah DAX, let's flip this approach to ensure no double counting and handle that WaniKani scenario correctly. We'll start by extracting distinct active days (non-blank, non-zero Duration) for each subproject, verify activity on the global max date, and then apply the consecutive grouping logic in a clean, consistent way.

Try this measure:

DAX

```

Current Subproject Streak =
VAR CurrentSubproject = SELECTEDVALUE('Table'[Sub-projects])
VAR GlobalMaxDate =
    MAXX(
        ALL('Table'),
        DATEVALUE('Table'[Date])
    )
-- Get all distinct days the subproject had nonzero activity
VAR ActiveDates =
    CALCULATETABLE(
        DISTINCT(
            SELECTCOLUMNS(
                FILTER(
                    ALL('Table'),
                    [Sub-projects] = CurrentSubproject
                    && NOT ISBLANK([Duration])
                    && [Duration] > TIME(0,0,0)
                ),
                "DateOnly", DATEVALUE('Table'[Date])
            )
        ),
        ALL('Table')
    )

```

```

-- Check if the subproject was active on the global max date
VAR HasLoggedOnGlobalMaxDate =
    CALCULATE(
        COUNTROWS('Table'),
        'Table'[Sub-projects] = CurrentSubproject,
        DATEVALUE('Table'[Date]) = GlobalMaxDate,
        NOT ISBLANK('Table'[Duration]),
        'Table'[Duration] > TIME(0,0,0),
        ALL('Table')
    )

RETURN
IF(
    HasLoggedOnGlobalMaxDate = 0,
    0,
    VAR DatesWithIndex =
        ADDCOLUMNS(
            ActiveDates,
            "DateIndex", RANKX(ActiveDates, [DateOnly], , ASC, DENSE),
            "IntDate", INT([DateOnly])
        )
    VAR DatesWithGroup =
        ADDCOLUMNS(
            DatesWithIndex,
            "GroupID", [IntDate] - [DateIndex]
        )
    VAR MaxDateGroupID =
        MAXX(
            FILTER(DatesWithGroup, [DateOnly] = GlobalMaxDate),
            [GroupID]
        )
    VAR CurrentGroupDates =
        FILTER(DatesWithGroup, [GroupID] = MaxDateGroupID)
    RETURN
        COUNTROWS(CurrentGroupDates)
)

```

What Changed?

- We explicitly start from a fully distinct set of active dates for the subproject. No duplicates.
- We confirm the subproject actually worked on the global max date. If not, streak = 0.
- For grouping consecutive days, we use the standard (*IntDate* - *DateIndex*) trick, but now only on a truly distinct list of days.
- Counting rows in that final group yields the exact current streak length.

This should ensure WaniKani (or any other subproject) gets an accurate consecutive streak count, avoiding double counts and ensuring that only consecutive days including the global max date are considered.

Okay, that's correct. One more for you:

Finally, please compute the longest streak for each project

Yo Inspectah DAX, we gonna do the same pattern as before but now for the entire Project, not just the subproject. We'll find all the active days for each project (non-blank, non-zero duration), then identify consecutive day runs and pick the longest one.

DAX

```

Longest Project Streak =
VAR CurrentProject = SELECTEDVALUE('Table'[Projects])
VAR ActiveDates =

```

```

CALCULATETABLE(
    DISTINCT(
        SELECTCOLUMNS(
            FILTER(
                ALL('Table'),
                [Projects] = CurrentProject
                && NOT ISBLANK([Duration])
                && [Duration] > TIME(0,0,0)
            ),
            "DateOnly", DATEVALUE('Table'[Date])
        )
    ),
    ALL('Table')
)
VAR DatesWithIndex =
    ADDCOLUMNS(
        ActiveDates,
        "DateIndex", RANKX(ActiveDates, [DateOnly], , ASC, DENSE),
        "IntDate", INT([DateOnly])
    )
VAR DatesWithGroup =
    ADDCOLUMNS(
        DatesWithIndex,
        "GroupID", [IntDate] - [DateIndex]
    )
VAR GroupsTable =
    GROUPBY(
        DatesWithGroup,
        [GroupID],
        "StreakLength", COUNTX(CURRENTGROUP(), [DateOnly])
    )
VAR MaxStreak =
    MAXX(GroupsTable, [StreakLength])
RETURN
MaxStreak

```

What's happenin' here?

- We filter the table for the chosen project, keeping only days with actual logged work (non-zero).
- We pull distinct dates, assign them an index, and create a group ID that identifies consecutive date sequences.
- We group by that ID to find how many days are in each consecutive sequence and then pick the max one.

That's your longest project streak, straight from ODB's coding dojo.

How I many seconds did you think about that one

It's correct - wu-tang forever odb. Protect ya neck!

Yo Inspectah DAX, ODB don't need a clock. That one flowed off the dome in about two seconds flat, baby. Wu-Tang forever! Protect ya neck!

peace, out

