

Sample DAX Codes from Thesis

```
1 Price Range =
2     SWITCH(
3         TRUE(),
4         'AirBnbGSS_Code_PBI'[Price]<= 35, "£1-35",
5         'AirBnbGSS_Code_PBI'[Price]<= 45, "£36-45",
6         'AirBnbGSS_Code_PBI'[Price]<= 60, "£46-60",
7         'AirBnbGSS_Code_PBI'[Price]<= 80, "£61-80",
8         'AirBnbGSS_Code_PBI'[Price]<= 100, "£81-100",
9         'AirBnbGSS_Code_PBI'[Price]<= 149, "£101-149",
10        "£150+"
11    )
1 % of Price Range =
2 VAR NeighbourhoodTotal =
3     CALCULATE(
4         [CountOfPriceRange],
5         ALLEXCEPT(AirBnbGSS_Code_PBI, AirBnbGSS_Code_PBI[Dzielnica])
6     )
7
8 RETURN
9 DIVIDE(
10    [CountOfPriceRange],
11    NeighbourhoodTotal,
12    0
13 )
1 Ilość_miejsc_pracy_MAX =
2 VAR MaxYear = MAX(housing_yearly_GSS_Code_PBI[year])
3 RETURN
4     CALCULATE(
5         AVERAGE(housing_yearly_GSS_Code_PBI[number_of_jobs]),
6         FILTER(
7             housing_yearly_GSS_Code_PBI,
8             housing_yearly_GSS_Code_PBI[year] = MaxYear
9         )
10    )
1 Liczba miejsc pracy na KM^2 w WYBRANEJ DZIELNICY =
2 DIVIDE(housing_yearly_GSS_Code_PBI[Liczba miejsc pracy],
3     AVERAGE(GIS_London_Polygons_PBI[KM^2]),0)
1 Liczba miejsc pracy na KM^2 OGÓŁEM =
2 CALCULATE(
3     DIVIDE(housing_yearly_GSS_Code_PBI[Liczba miejsc pracy],
4         AVERAGE(GIS_London_Polygons_PBI[KM^2]),0
5     ),
6     ALL(GIS_London_Polygons_PBI[NAME])
7 )
```



Newham



brak wyboru



Tower Hamlets

Średnie wynagrodzenie

MIN

20.58K

<

Średnie wynagrodzenie

MIN

26.05K

<

Średnie wynagrodzenie

MIN

37.52K

```
1 Średnie_wynagrodzenie_MIN =
2 VAR MinYear = MIN(housing_yearly_GSS_Code_PBI[year])
3 RETURN
4 CALCULATE(
5     AVERAGE(housing_yearly_GSS_Code_PBI[mean_salary]),
6     FILTER(
7         housing_yearly_GSS_Code_PBI,
8         housing_yearly_GSS_Code_PBI[year] = MinYear
9     )
10 )
```

```
1 Średnie_wynagrodzenie_MIN MAP_Filter =
2 VAR MinYear = MIN(housing_yearly_GSS_Code_PBI[year])
3 RETURN
4 CALCULATE(
5     AVERAGE(housing_yearly_GSS_Code_PBI[mean_salary]),
6     FILTER(
7         housing_yearly_GSS_Code_PBI,
8         housing_yearly_GSS_Code_PBI[year] = MinYear
9     )
10 ),
11 ALL(GIS_London_Polygons_PBI[NAME])
12 )
13 )
```

poszczególne dzielnice

blokowanie filtracji

```
1 Średnie_wynagrodzenie_MIN_COLOR =
2 SWITCH(
3     TRUE(),
4     housing_yearly_GSS_Code_PBI[Średnie_wynagrodzenie_MIN] < [Średnie_wynagrodzenie_MIN MAP_Filter], "#0F6467",
5     housing_yearly_GSS_Code_PBI[Średnie_wynagrodzenie_MIN] = [Średnie_wynagrodzenie_MIN MAP_Filter], "#566862",
6     housing_yearly_GSS_Code_PBI[Średnie_wynagrodzenie_MIN] > [Średnie_wynagrodzenie_MIN MAP_Filter], "#FFCB9A",
7     "#566862"
8 )
```

```
1 Prev_Mean_Okno_Property =
2 MINX(
3     OFFSET(
4         -1,
5         SUMMARIZE('housing_yearly_monthly_PBI', housing_yearly_monthly_PBI[area],
6             housing_yearly_monthly_PBI[year], housing_yearly_monthly_PBI[average_price_flat]),
7         ORDERBY(housing_yearly_monthly_PBI[year]),
8         PARTITIONBY(housing_yearly_monthly_PBI[area])),
9     'housing_yearly_monthly_PBI'[average_price_flat]
10 )
```

```
1 Różnica_Okno_Property = [average_price_flat]-[Prev_Mean_Okno_Property]
```

```
1 Różnica_%_Okno_Property =
2 IFERROR(
3     ([Różnica_Okno_Property] * 100)/[Prev_Mean_Okno_Property], BLANK())
```

```

1 Kumulacja Okno Property =
2 VAR AktualnaData = housing_yearly_monthly_PBI[year]
3 VAR Dzielnica = housing_yearly_monthly_PBI[area]
4 VAR TabelaFiltrowana =
5     FILTER(housing_yearly_monthly_PBI,
6         housing_yearly_monthly_PBI[year] <= AktualnaData &&
7         housing_yearly_monthly_PBI[area] = Dzielnica)
8 RETURN
9 CALCULATE(
10     SUM(housing_yearly_monthly_PBI[Różnica_%_Okno_Property]),
11     TabelaFiltrowana)

```

average_price_flat	year	Prev_Mean_Okno_Property	Różnica_Okno_Property	Różnica_%_Okno_Property	Kumulacja Okno Property	area
65456.78	1999		65456.78			Barking and Dagenham
77797.03	2000	65456.78	12340.25	18.8525161182692	18.8525161182692	Barking and Dagenham
88813.38	2001	77797.03	11016.35	14.1603734744116	33.0128895926808	Barking and Dagenham
112844.78	2002	88813.38	24031.4	27.0583103581915	60.0711999508723	Barking and Dagenham
142882.57	2003	112844.78	30037.79	26.618679215822	86.6898791666942	Barking and Dagenham
157695.98	2004	142882.57	14813.41	10.3675416812562	97.0574208479504	Barking and Dagenham
163394	2005	157695.98	5698.01999999999	3.61329439089062	100.670715238841	Barking and Dagenham
168358.26	2006	163394	4964.26000000001	3.03821437751693	103.708929616358	Barking and Dagenham

```

1 Wzrost % nieruchomości =
2 CALCULATE(
3     AVERAGE(housing_yearly_monthly_PBI[Kumulacja Okno Property]),
4     USERELATIONSHIP(housing_yearly_monthly_PBI[year], Calendar_Year_PBI[Calendar_Years])
5 )

```

```

1 Średnie wynagrodzenie MIN =
2 VAR MinYear = MIN(Calendar_Year_PBI[Calendar_Years])
3 VAR MinRok = MIN(housing_yearly_GSS_Code_PBI[year])
4 VAR Kalkulacje =
5     CALCULATE(
6         AVERAGE(housing_yearly_GSS_Code_PBI[mean_salary]),
7         FILTER(
8             housing_yearly_GSS_Code_PBI,
9             housing_yearly_GSS_Code_PBI[year] = MinYear
10        ),
11        USERELATIONSHIP(housing_yearly_GSS_Code_PBI[year], Calendar_Year_PBI[Calendar_Years])
12    )

```

```

1 Średnie wynagrodzenie MIN =
2 VAR MinYear = MIN(Calendar_Year_PBI[Calendar_Years])
3 VAR MinRok = MIN(housing_yearly_GSS_Code_PBI[year])
4 VAR Kalkulacje =
5 CALCULATE(
6     AVERAGE(housing_yearly_GSS_Code_PBI[mean_salary]),
7     FILTER(
8         housing_yearly_GSS_Code_PBI,
9         housing_yearly_GSS_Code_PBI[year] = MinYear
10    ),
11    USERRELATIONSHIP(housing_yearly_GSS_Code_PBI[year], Calendar_Year_PBI[Calendar_Years])
12 )
13 VAR Kalkulacje2 =
14 IF(
15     ISBLANK(Kalkulacje),
16     CALCULATE(
17         AVERAGE(housing_yearly_GSS_Code_PBI[mean_salary]),
18         FILTER(
19             housing_yearly_GSS_Code_PBI,
20             housing_yearly_GSS_Code_PBI[year] = MinRok
21         ),
22         USERRELATIONSHIP(housing_yearly_GSS_Code_PBI[year], Calendar_Year_PBI[Calendar_Years])
23     ),
24     CALCULATE(
25         AVERAGE(housing_yearly_GSS_Code_PBI[mean_salary]),
26         FILTER(
27             housing_yearly_GSS_Code_PBI,
28             housing_yearly_GSS_Code_PBI[year] = MinYear
29         ),
30         USERRELATIONSHIP(housing_yearly_GSS_Code_PBI[year], Calendar_Year_PBI[Calendar_Years])
31     )
32 )
33 RETURN
34 Kalkulacje2

```

1 Średnia ilość sprzedanych nieruchomości (miesięcznie) DLA WSZYSTKICH DZIELNIC =

```

2 CALCULATE(
3     AVERAGEX(
4         housing_monthly_GSS_Code_PBI,
5         housing_monthly_GSS_Code_PBI[houses_sold]
6     ) * 12,
7     ALL(GIS_London_Polygons_PBI[NAME])
8 )

```

zablokowana filtracja przez dzielnice

```

1 Lata pracy na zakup nieruchomości OGÓŁEM =
2 CALCULATE(
3     DIVIDE(housing_monthly_GSS_Code_PBI[Średnia cena nieruchomości MAX],
4         housing_yearly_GSS_Code_PBI[Średnie wynagrodzenie MAX],0),
5     ALL(GIS_London_Polygons_PBI[NAME])
6 )

```

brak blokowania filtracji

```

1 Lata pracy na zakup nieruchomości DLA WYBRANEJ DZIELNICY =
2 DIVIDE(housing_monthly_GSS_Code_PBI[Średnia cena nieruchomości MAX],
3     housing_yearly_GSS_Code_PBI[Średnie wynagrodzenie MAX],0)

```

1 Liczba przestępstw dla maksymalnego wybranego roku =

```

2 VAR SelectedYears = VALUES(crime_summary_PBI[year])
3 VAR MaxYear = MAXX(SelectedYears, crime_summary_PBI[year])
4 RETURN
5     CALCULATE(
6         SUM(crime_summary_PBI[Liczba_przestępstw]),
7         FILTER(
8             crime_summary_PBI,
9             crime_summary_PBI[year] = MaxYear
10        )
11    )

```

```

1 KradzieżeMAX =
2 VAR SelectedYears = VALUES('crime_summary_PBI'[year])
3 VAR MaksYear = MAXX(SelectedYears, 'crime_summary_PBI'[year])
4 VAR Kradzieze =
5     CALCULATE(
6         MAX (gauge_crime_PBI[maks]),
7         FILTER(gauge_crime_PBI,
8             gauge_crime_PBI[Kategoria_główna] = "Kradzieże" &&
9             gauge_crime_PBI[year] = MaksYear))
10 RETURN
11 Kradzieze

1 KradzieżeTARGET =
2 CALCULATE(
3 AVERAGE(gauge_crime_PBI[średnia]),
4 FILTER(gauge_crime_PBI,
5     gauge_crime_PBI[Kategoria_główna] = "Kradzieże" &&
6     gauge_crime_PBI[year] IN VALUES (crime_summary_PBI[year])))

1 Kradzieże =
2 VAR SelectedYears = VALUES('crime_summary_PBI'[year])
3 VAR MaxYear = MAXX(SelectedYears, 'crime_summary_PBI'[year])
4 RETURN
5 IF(
6     ISFILTERED(GIS_London_Polygons_PBI[NAME]) || ISFILTERED('crime_summary_PBI'[year]),
7     CALCULATE(
8         SUM('crime_summary_PBI'[Liczba_przestępstw]),
9         FILTER(
10             'crime_summary_PBI',
11             'crime_summary_PBI'[Kategoria_główna] = "Kradzieże" &&
12             'crime_summary_PBI'[year] = MaxYear
13         )
14     ),
15     CALCULATE(
16         AVERAGE(gauge_crime_PBI[średnia]),
17         FILTER(
18             gauge_crime_PBI,
19             gauge_crime_PBI[Kategoria_główna] = "Kradzieże" &&
20             gauge_crime_PBI[year] IN VALUES (crime_summary_PBI[year])
21         )
22     )
23 )

1 KradziezeCOLOR =
2 SWITCH(
3     TRUE(),
4     crime_summary_PBI[Kradzieże] >= [KradzieżeMAX], "#2C3532",
5     crime_summary_PBI[Kradzieże] >= [KradzieżeTARGET], "#D8B08C",
6     "#566862"
7 )

```

```

1 Wielkość populacji pod CRIME =
2 VAR SelectedYears = VALUES('crime_summary_PBI'[year])
3 VAR MaxYear = MAXX(SelectedYears, 'crime_summary_PBI'[year])
4 VAR Kalkulacje =
5
6     CALCULATE(
7         AVERAGEX(
8             SUMMARIZE(
9                 housing_yearly_GSS_Code_PBI,
10                 housing_yearly_GSS_Code_PBI[year],
11                 housing_yearly_GSS_Code_PBI[area],
12                 "Liczba populacji", SUM(housing_yearly_GSS_Code_PBI[population_size])),
13             [Liczba populacji]),
14         FILTER(
15             housing_yearly_GSS_Code_PBI,
16             housing_yearly_GSS_Code_PBI[year] = MaxYear)
17     )
18
19 RETURN
20 Kalkulacje

```

1B

```

1 Wielkość populacji pod CRIME niefiltrowane =
2 VAR SelectedYears = VALUES('crime_summary_PBI'[year])
3 VAR MaxYear = MAXX(SelectedYears, 'crime_summary_PBI'[year])
4 VAR Kalkulacje =
5
6     CALCULATE(
7         AVERAGEX(
8             SUMMARIZE(
9                 housing_yearly_GSS_Code_PBI,
10                 housing_yearly_GSS_Code_PBI[year],
11                 housing_yearly_GSS_Code_PBI[area],
12                 "Liczba populacji", SUM(housing_yearly_GSS_Code_PBI[population_size])),
13             [Liczba populacji]),
14         FILTER(
15             housing_yearly_GSS_Code_PBI,
16             housing_yearly_GSS_Code_PBI[year] = MaxYear)
17     ),
18     ALL(GIS_London_Polygons_PBI[NAME])
19 )
20 RETURN
21 Kalkulacje

```

2B

3A

```

1 Maks Przestępstw Ogółem per Capita =
2 VAR SelectedYears = VALUES('crime_summary_PBI'[year])
3 VAR MaxYear = MAXX(SelectedYears, 'crime_summary_PBI'[year])
4 VAR Kalkulacje =
5 CALCULATE(
6     CALCULATE(
7         MAXX(
8             SUMMARIZE(
9                 crime_summary_PBI,
10                crime_summary_PBI[year],
11                crime_summary_PBI[borough],
12                "Srednia ilosc przestepstw", SUM(crime_summary_PBI[Liczba_przestepstw])),
13            [Srednia ilosc przestepstw]),
14            FILTER(
15                crime_summary_PBI,
16                crime_summary_PBI[year] = MaxYear)
17        ),
18        ALL(GIS_London_Polygons_PBI[NAME]))
19 )
20 RETURN
21 DIVIDE(
22     (Kalkulacje * 1000),
23     housing_yearly_GSS_Code_PBI[Wielkość populacji pod CRIME niefiltrowane], 0)

```

2A

```

1 Srednia Przestępstw Ogółem TARGET per Capita =
2 VAR SelectedYears = VALUES('crime_summary_PBI'[year])
3 VAR MaxYear = MAXX(SelectedYears, 'crime_summary_PBI'[year])
4 VAR Kalkulacje =
5 CALCULATE(
6     CALCULATE(
7         AVERAGEX(
8             SUMMARIZE(
9                 crime_summary_PBI,
10                crime_summary_PBI[year],
11                crime_summary_PBI[borough],
12                "Srednia ilosc przestepstw", SUM(crime_summary_PBI[Liczba_przestepstw])),
13            [Srednia ilosc przestepstw]),
14            FILTER(
15                crime_summary_PBI,
16                crime_summary_PBI[year] = MaxYear)
17        ),
18        ALL(GIS_London_Polygons_PBI[NAME]))
19 )
20 RETURN
21 DIVIDE(
22     (Kalkulacje * 1000),
23     housing_yearly_GSS_Code_PBI[Wielkość populacji pod CRIME niefiltrowane], 0)

```

3A+

```

1 Liczba przestępstw 1000 os MAX =
2 VAR SelectedYears = VALUES('crime_summary_PBI'[year])
3 VAR MaksYear = MAXX(SelectedYears, 'crime_summary_PBI'[year])
4 VAR obliczenie =
5     CALCULATE(
6         MAX (Maksima_Crime_Capita[maksymalna_liczba_przestepstw_per_Capita]),
7         FILTER(Maksima_Crime_Capita,
8             Maksima_Crime_Capita[year] = MaksYear))
9 RETURN
10 obliczenie

```



```

1 Liczba przestępstw OGÓŁEM per Capita =
2 VAR SelectedYears = VALUES('crime_summary_PBI'[year])
3 VAR MaxYear = MAXX(SelectedYears, 'crime_summary_PBI'[year])
4 VAR Kalkulacje =
5 IF(
6     ISFILTERED(GIS_London_Polygons_PBI[NAME]) || ISFILTERED('crime_summary_PBI'[year]),
7     CALCULATE(
8         SUM('crime_summary_PBI'[Liczba_przestępstw]),
9         FILTER(
10             'crime_summary_PBI',
11             'crime_summary_PBI'[year] = MaxYear
12         )
13     ),
14     CALCULATE(
15         DIVIDE(
16             AVERAGEX(
17                 SUMMARIZE(crime_summary_PBI,
18                     crime_summary_PBI[year],
19                     "Srednia ilosc przestępstw", SUM(crime_summary_PBI[Liczba_przestępstw])),
20                 [Srednia ilosc przestępstw]),
21             33, 0),
22         FILTER(
23             crime_summary_PBI,
24             crime_summary_PBI[year] = MaxYear
25         )
26     )
27 )
28 RETURN
29 DIVIDE(
30     (Kalkulacje * 1000),
31     housing_yearly_GSS_Code_PBI[Wielkość populacji pod CRIME], 0)

```

1A

Liczba przestępstw na 1000 osób - WIZUALIZACJA

