⌄ Iowa housing price explosion in the 8 years.

Home values in Iowa have surged in recent years. Between April 2016 and April 2024, home prices increased by a substantial 55.21%. While overall inflation during the same period was 31.05%, a significant portion of this inflation can be attributed to rising housing costs. In fact, it's estimated that one-third of U.S. inflation is directly linked to changes in home prices. This suggests that the growth in Iowa home values has outpaced the broader inflationary trend

The median rent in Iowa currently sits at $1,175, reflecting a significant 6.8% increase compared to the previous year (Rent.com, 2024). Iowa ranks eighth in the nation for the largest increase in median gross rent in the last year (Rent.com, 2024).

⌄ Housing price and homeownership insight

The cost to buy a home has been increasing a faster rate then the cost to rent in the last 8 years, likely contributing to lower homeownerships rates due to renting being more affordable then owning a home.

```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from matplotlib.ticker import FuncFormatter

# Median gross data from iowadatacenter.org
df = pd.read_excel("/content/home_value_vs_rent.xlsx")

# Create the plot
sns.set(style="whitegrid")
plt.figure(figsize=(12, 6))
ax1 = sns.lineplot(data=df, x='Date', y='Estimated median home value', label='Zillow Home Value')
sns.lineplot(data=df, x='Date', y='Inflation', label='Inflation (since 2016)', color= 'black')
ax1.set_title("Iowa Median Home and Rent Value", fontsize=16)
ax1.set_xlabel("Date", fontsize=14)
ax1.set_ylabel("Median Home Value", fontsize=14)
plt.xticks(fontsize=12)
plt.yticks(fontsize=12)
plt.grid(False)
xticks = ax1.get_xticks()
xticks = xticks[::12]
ax1.set_xticks(xticks)
ax1.set_xticklabels(df['Date'][::12])
ax2 = ax1.twinx()
ax2.set_ylabel("Median Rent Value", fontsize=14, color='black')
ax2.tick_params(axis='y', labelcolor='black')  # Set tick color
ax2.spines['right'].set_color('black')  # Set spine color
ax2.set_ylim(bottom=min(df['Zillow Observed Rent Index'])-20, top=max(df['Zillow Observed Rent Index'])+200)  # Set limits automatically

# Plot the Zillow rent index on the secondary axis
sns.lineplot(data=df, x='Date', y='Zillow Observed Rent Index', label='Zillow Rent Value', ax=ax2, color='orange')

# Add source text and general formatting
plt.text(0.95, 0.01, 'Source: Zillow Home and Rent indexes',
         verticalalignment='bottom', horizontalalignment='right',
         transform=plt.gca().transAxes,
         color='gray', fontsize=8)
formatter = FuncFormatter(lambda x, _: f'${int(x):,}')
ax1.yaxis.set_major_formatter(formatter)
ax2.yaxis.set_major_formatter(formatter)
lines, labels = ax1.get_legend_handles_labels()
lines2, labels2 = ax2.get_legend_handles_labels()
lines = lines + lines2
labels = labels + labels2
desired_order = [0, 2, 1]
labels = [labels[i] for i in desired_order]
lines = [lines[i] for i in desired_order]
legend = plt.legend(lines, labels, loc='upper left', fancybox=True, framealpha=1)
legend.get_frame().set_facecolor('white')
plt.grid(False)

#plt.savefig('home_and_rent_value_plot.png', bbox_inches='tight')

plt.show()
```

Iowa Median Home and Rent Value