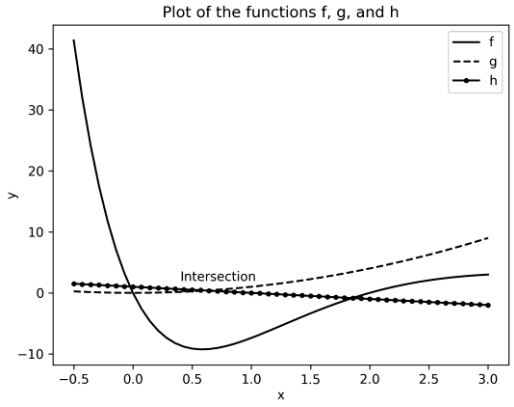
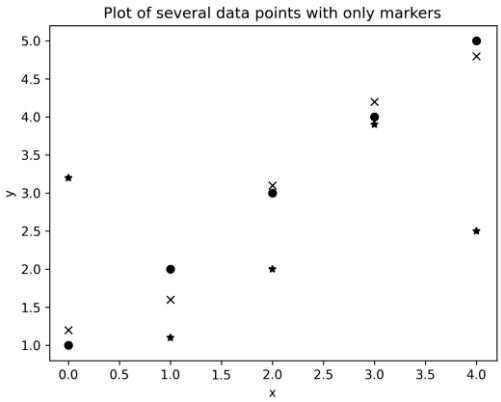
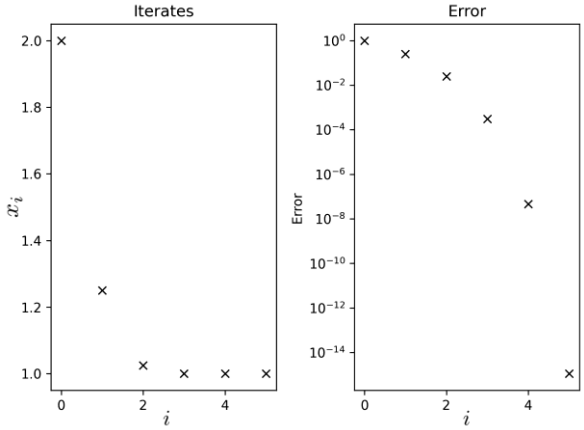
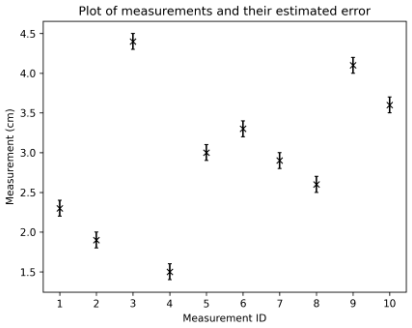
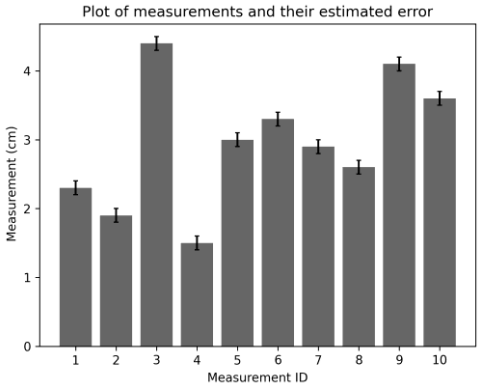
Chapter 2: Mathematical Plotting Using Matplotlib

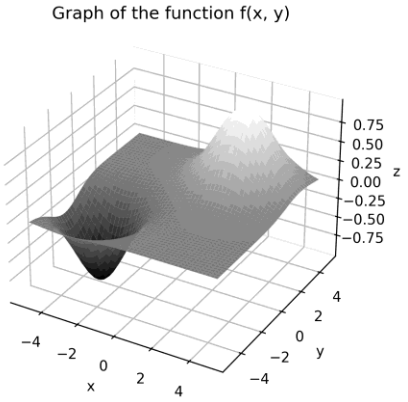


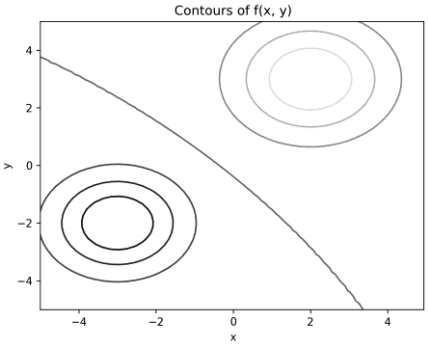


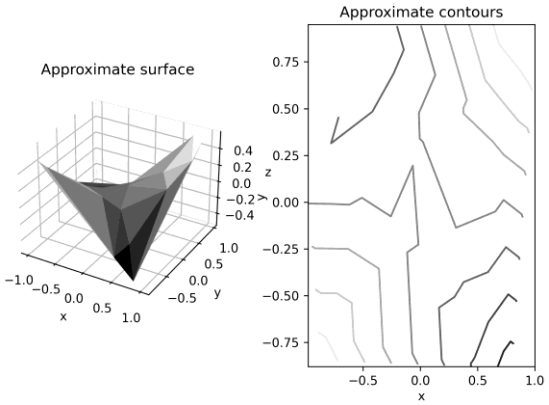




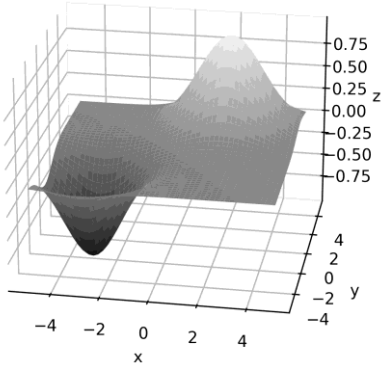


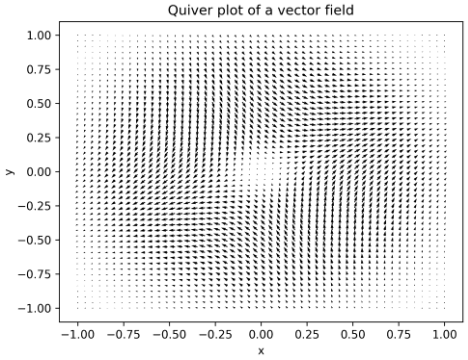


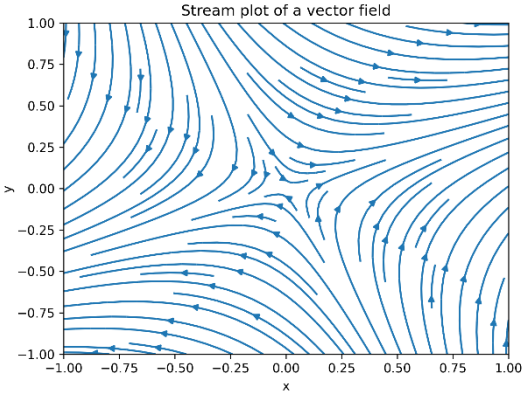




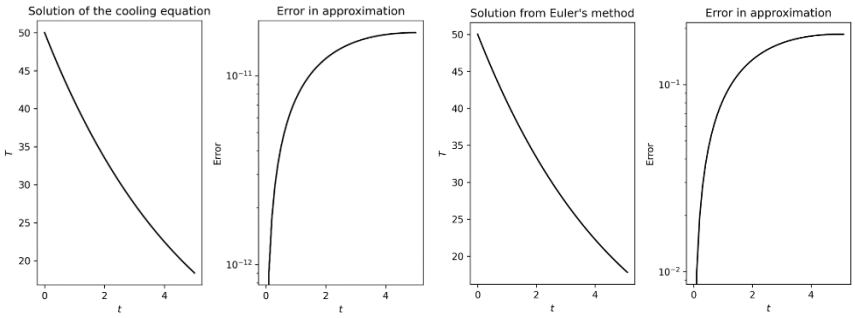
Customized 3D surface plot

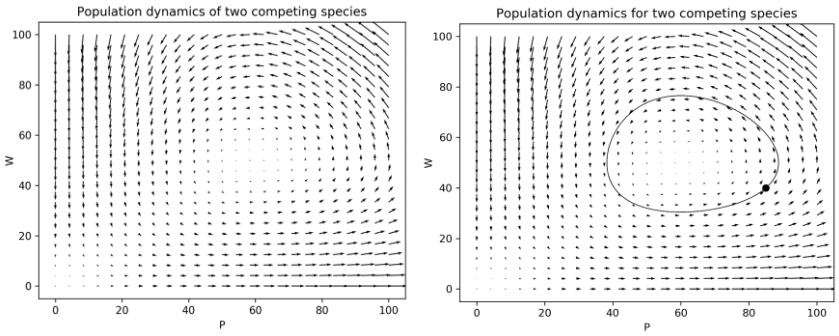


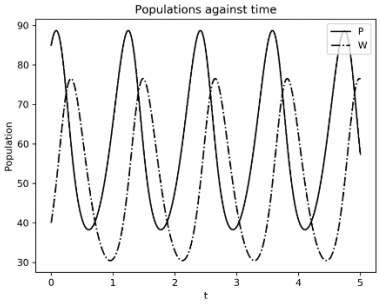


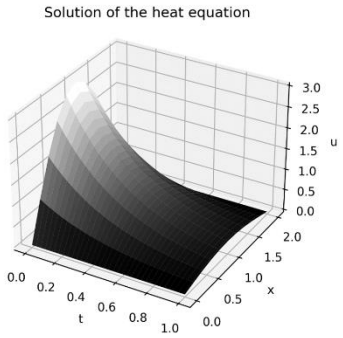


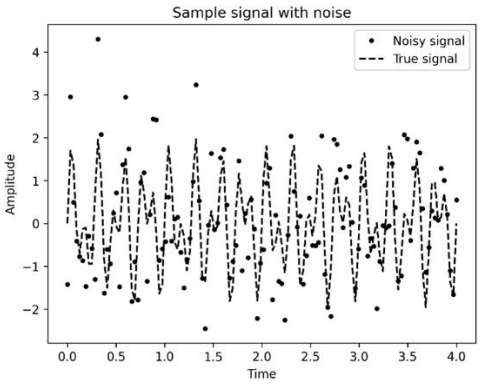
Chapter 3: Calculus and differential equations

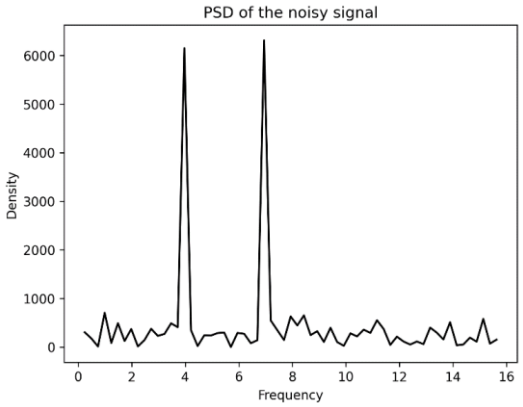


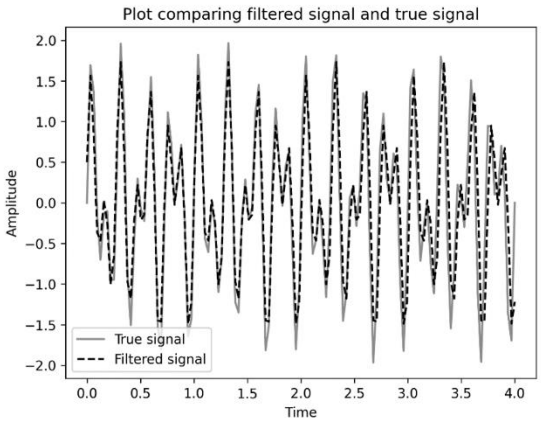


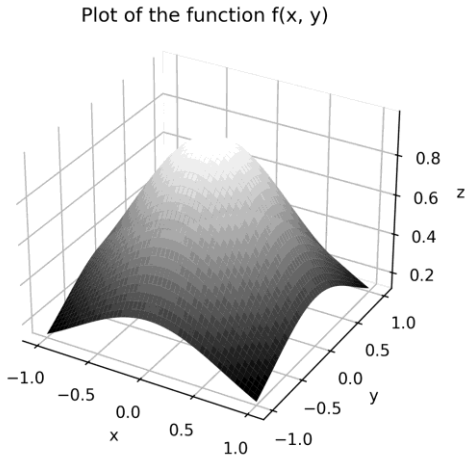


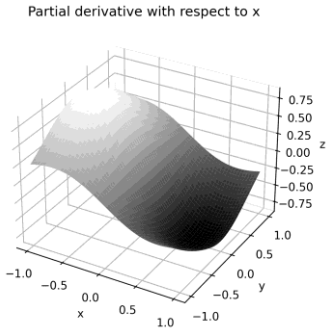


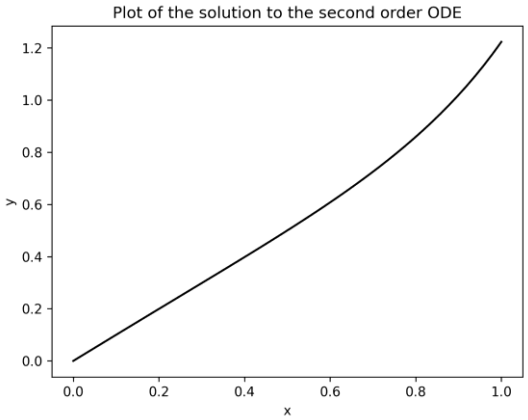




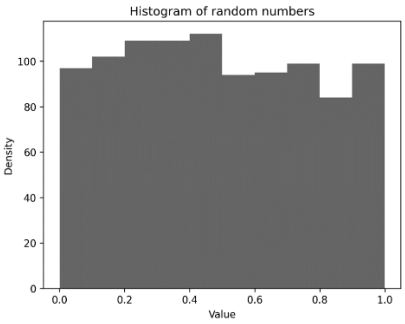

Plot comparing filtered signal and true signal
Amplitude
Time
True signal
Filtered signal

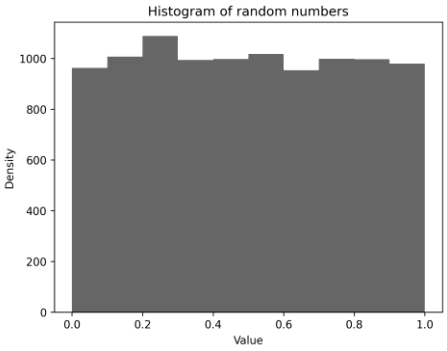

Plot of the function f(x, y)
x
y
z

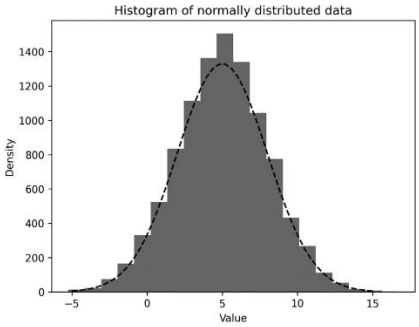

Partial derivative with respect to x
x
y
z

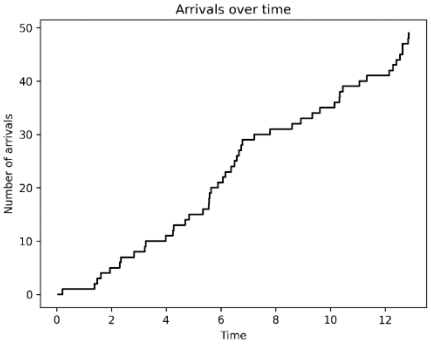

Plot of the solution to the second order ODE
x
y

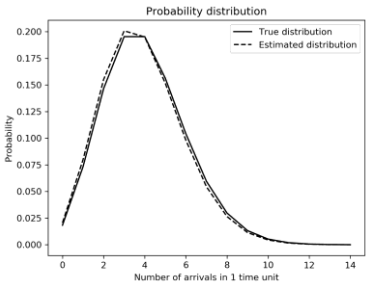
Chapter 4: Working with randomness

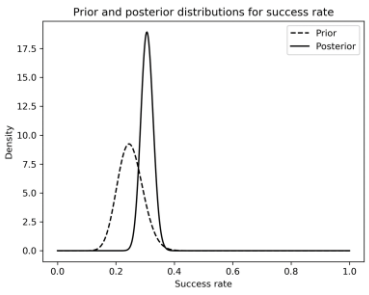


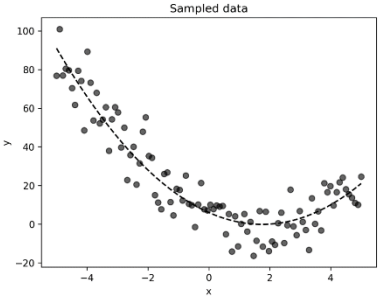


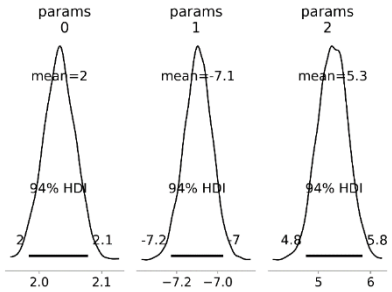


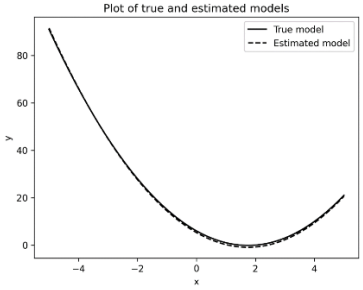




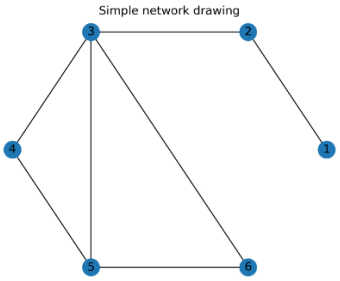


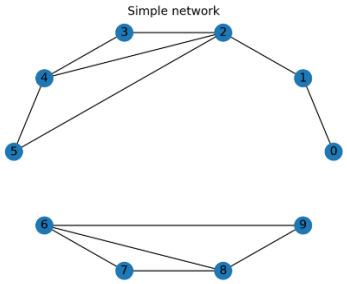


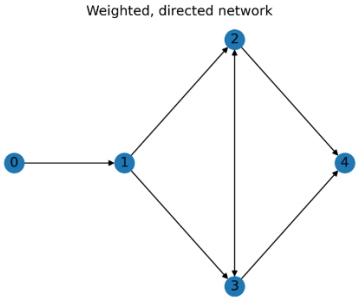


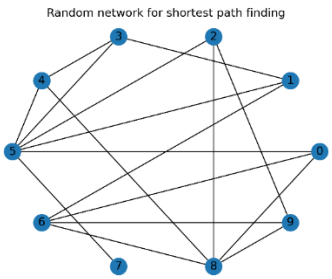


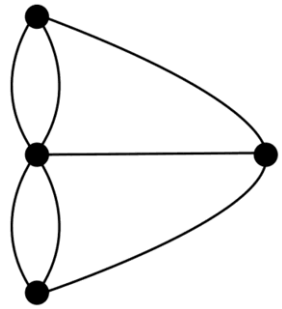
Chapter 5: Trees and networks

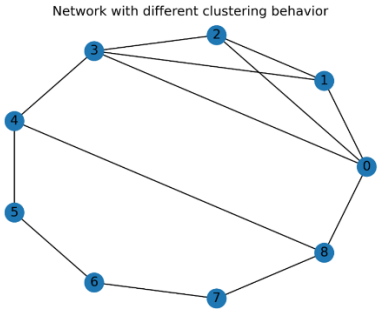


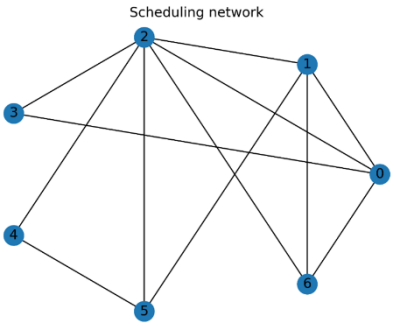


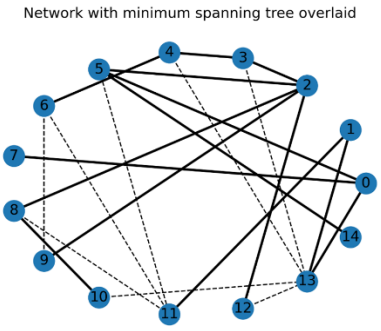




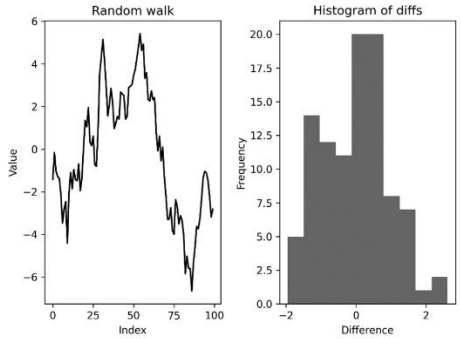


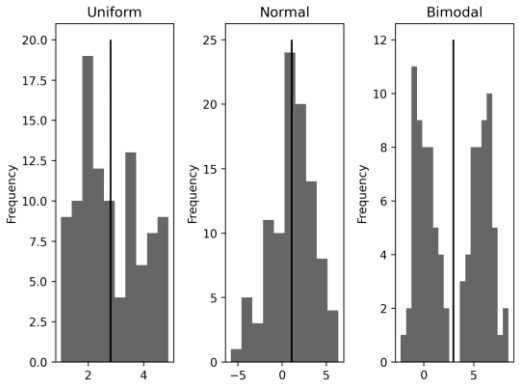


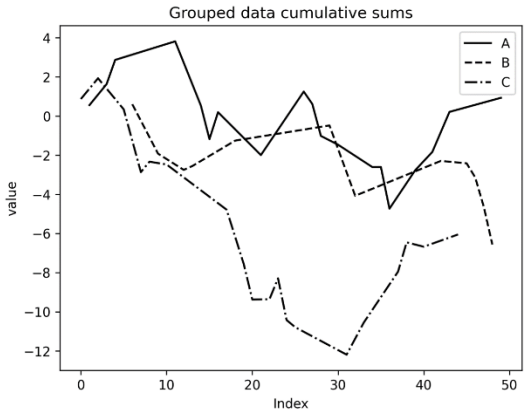


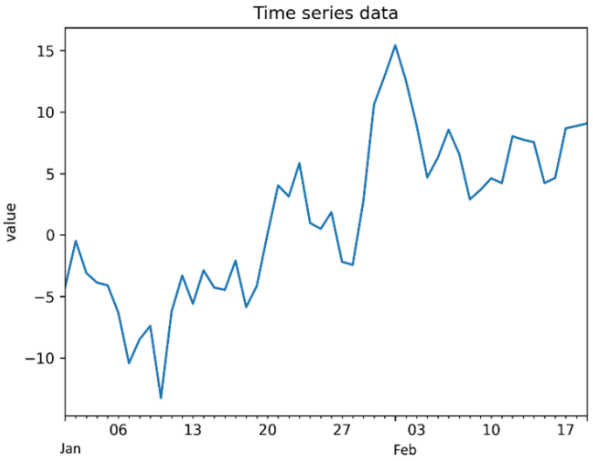


Chapter 6: Working with data and statistics

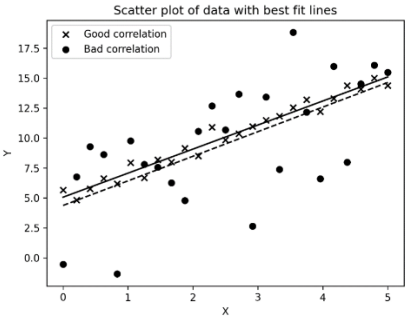


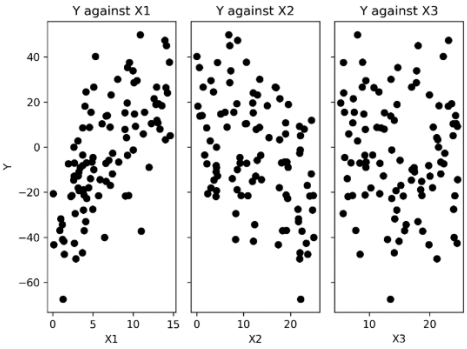


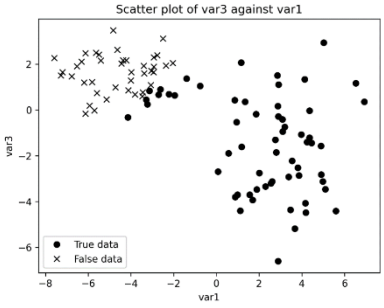


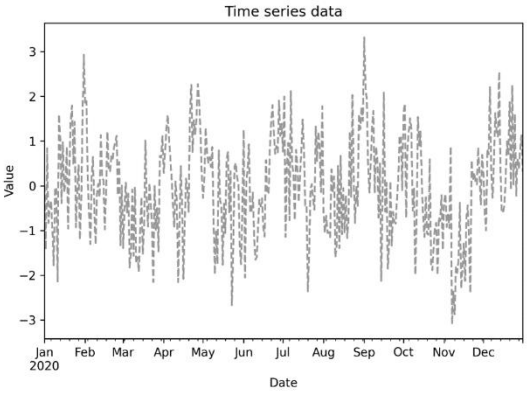


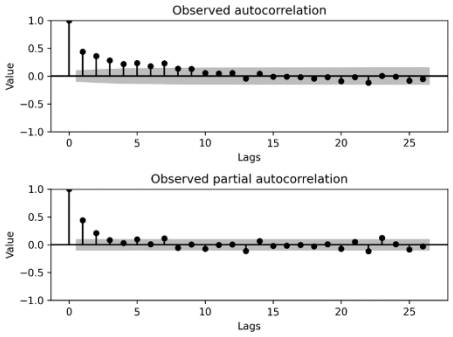
Chapter 7: Regression and forecasting

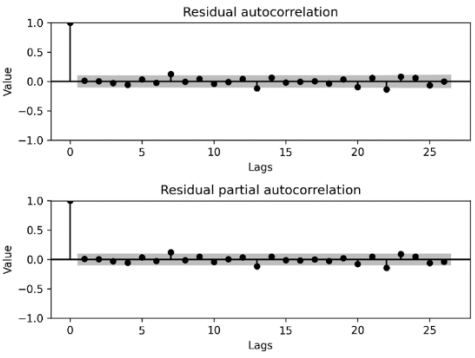


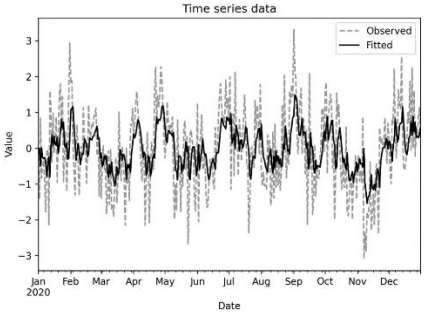


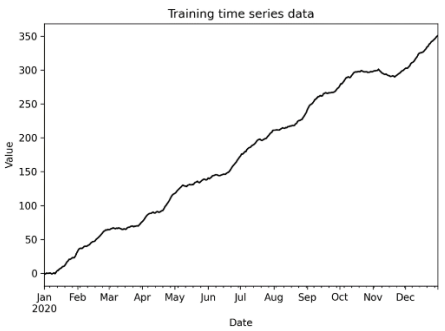


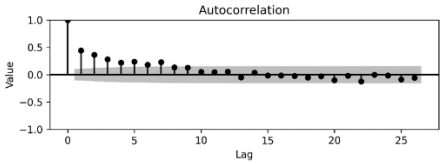


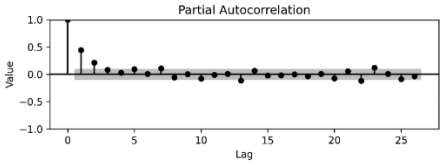


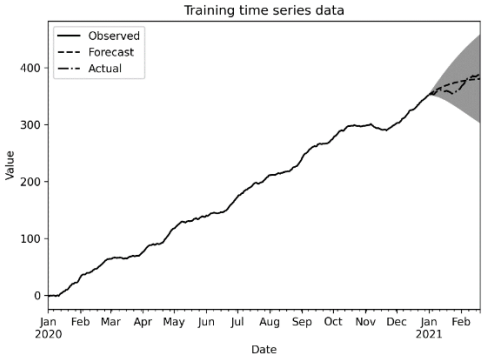


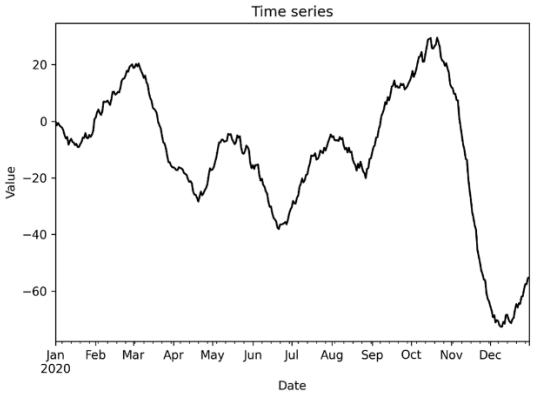





Autocorrelation
Value
Lag


Partial Autocorrelation
Value
Lag


Training time series data
Observed
Forecast
Actual
Value
Jan 2020
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan 2021
Feb
Date


Time series
Value
Jan 2020
Feb
Mar
Apr
May
Jun
Jul
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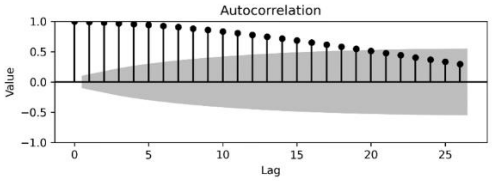
Oct
Nov
Dec
Date


Autocorrelation
Value
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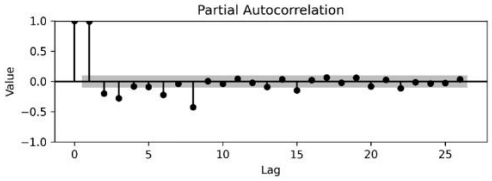
Partial Autocorrelation
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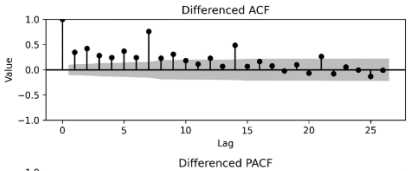
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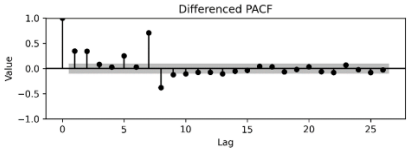
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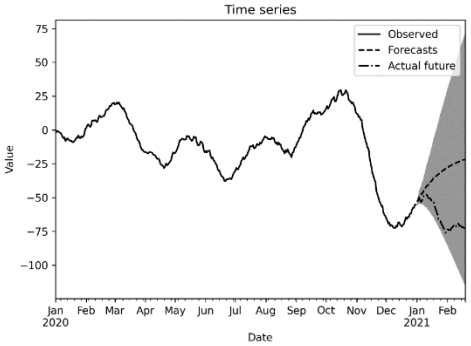
Time series
Observed
Forecasts
Actual future
Value
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Mar
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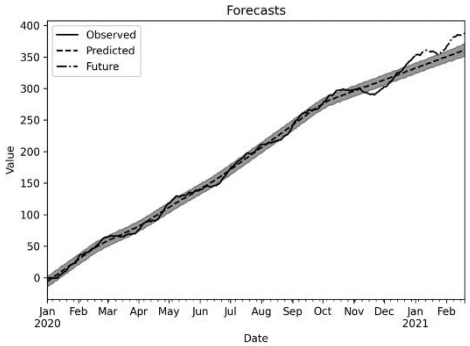
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan 2021
Feb
Date


Forecasts
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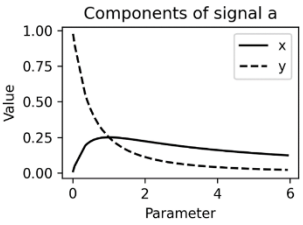
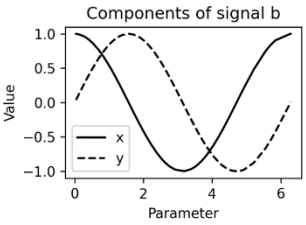
Date


Components of signal a
x
y
Value
Parameter


Components of signal b
x
y
Value
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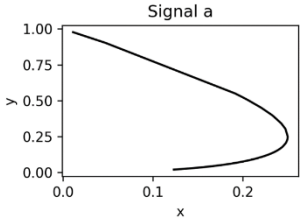
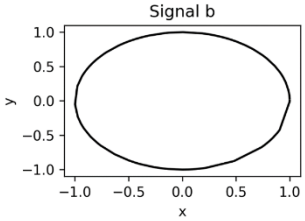
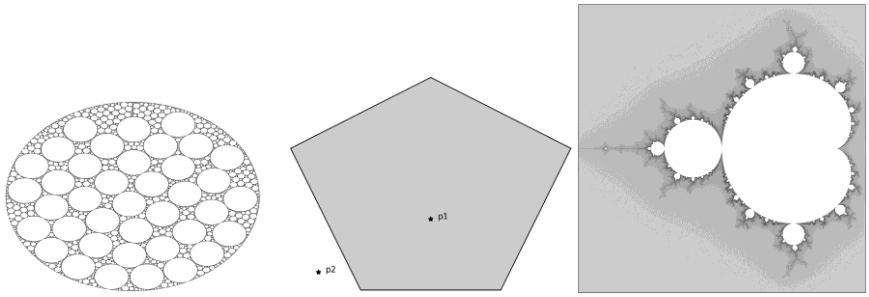
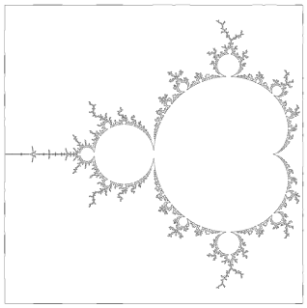
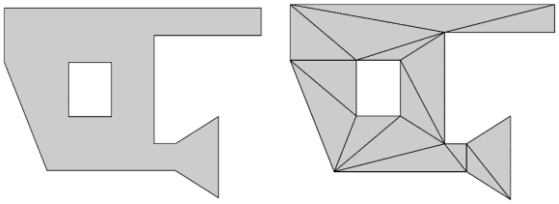

Signal a
y
x

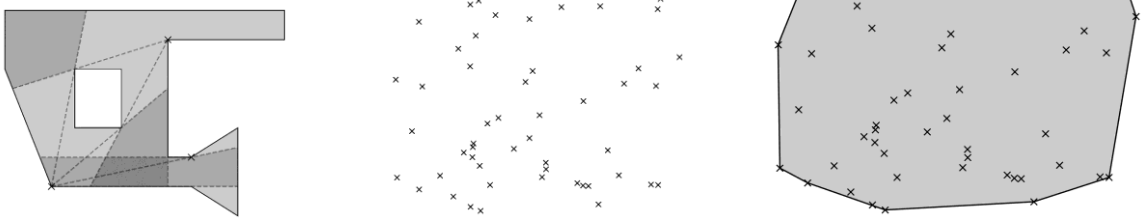

Signal b
y
x

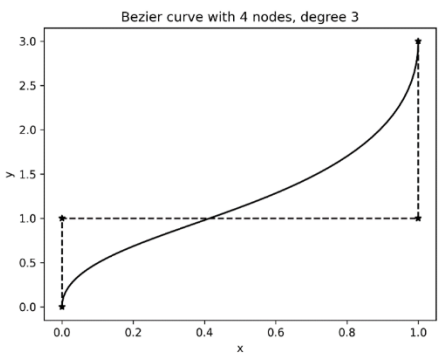
Chapter 8: Geometric problems

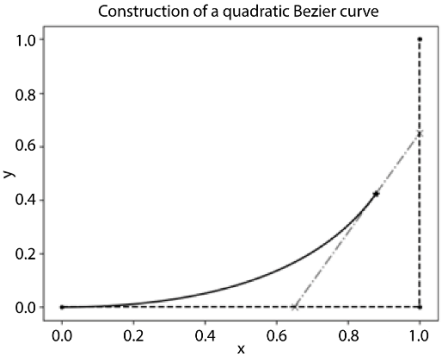




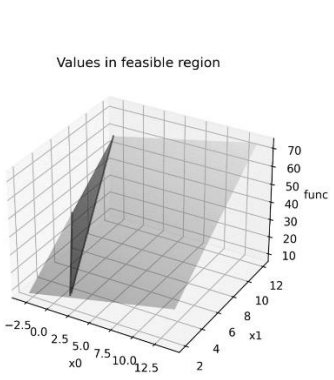


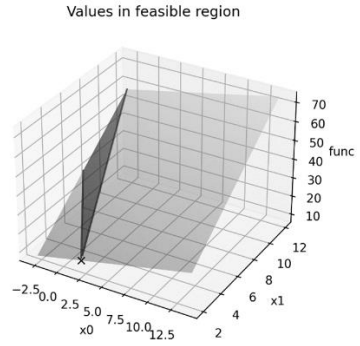


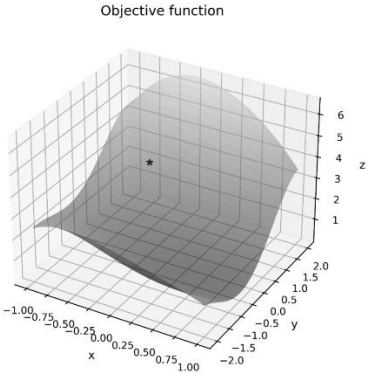


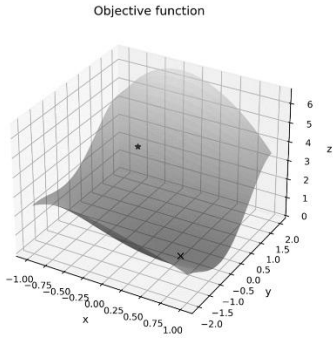


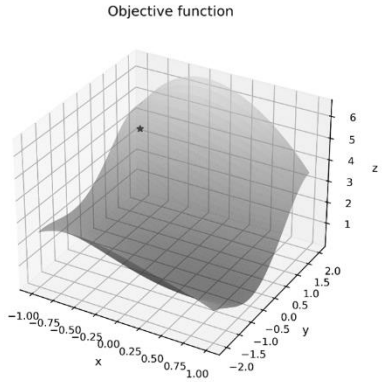
Chapter 9: Finding optimal solutions

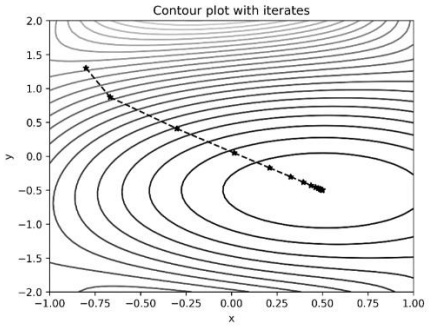


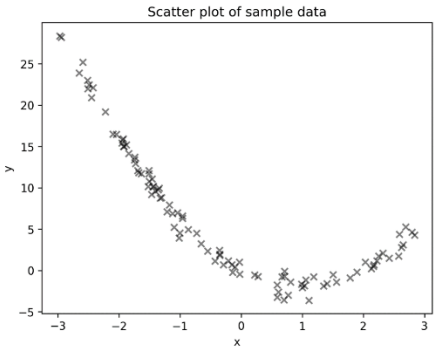


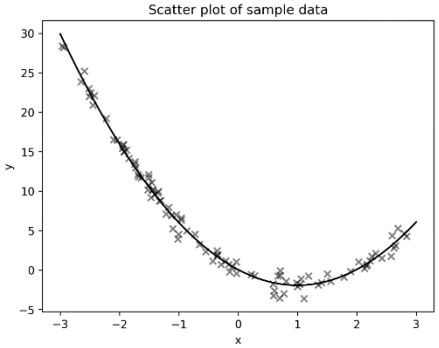
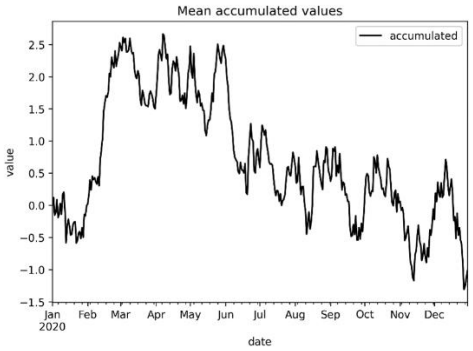
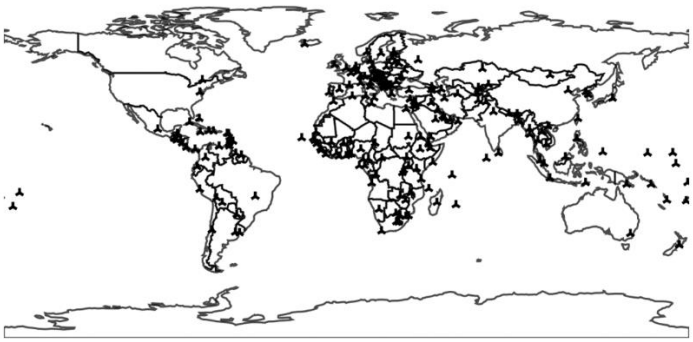
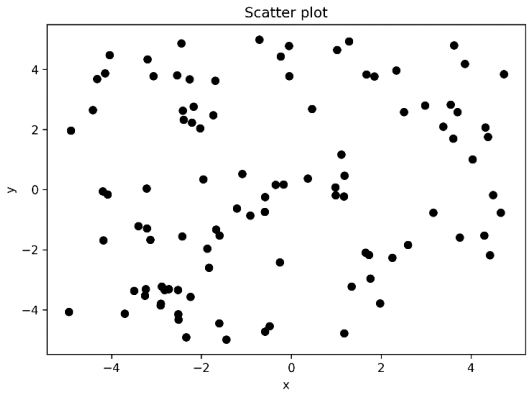
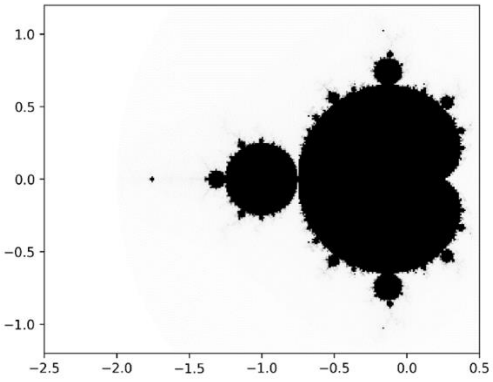
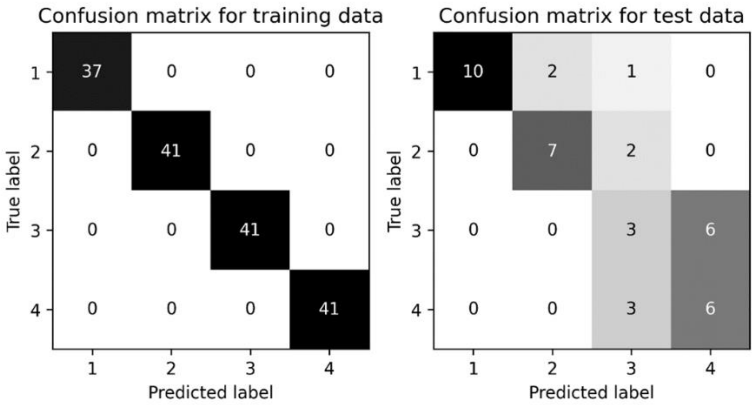












Chapter 10: Improving your productivity