Anvendt Statistik for Erhvervsøkonomer

Workshop 2: Opgavesæt løsninger

2.1

Nominal: Occupation, undergraduate major.
Ordinal: Rating of university professor, Taste test ratings.
Interval: age, income

2.2

a. Interval
b. Interval
c. Nominal
d. Ordinal

2.3
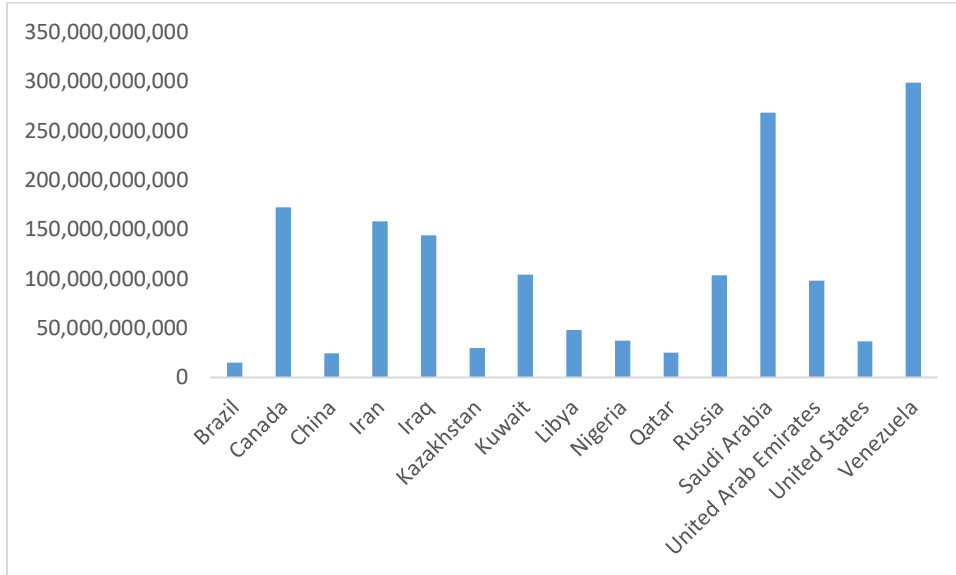
a. Interval
b. Nominal
c. Ordinal
d. Interval
e. Interval
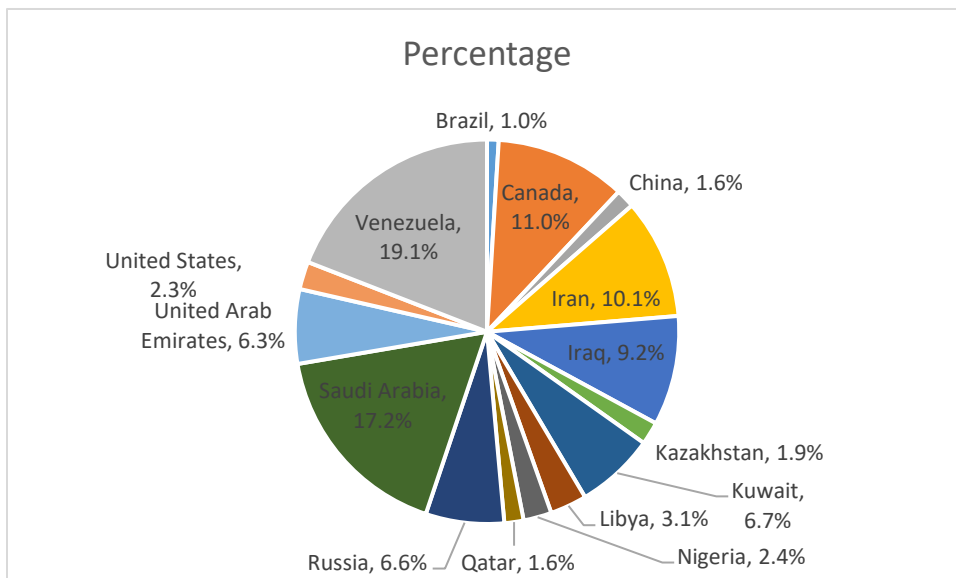
2.8

a. Interval
b. Ordinal
c. Nominal
d. Ordinal

2.12
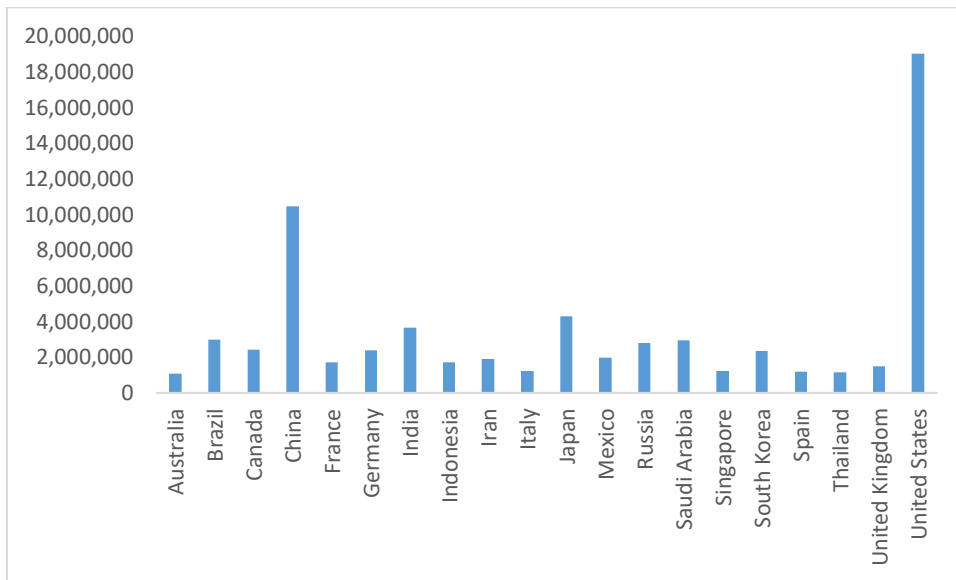
  a. Nominal
  b. Interval
  c. Interval
  d. Interval

2.13

2.14

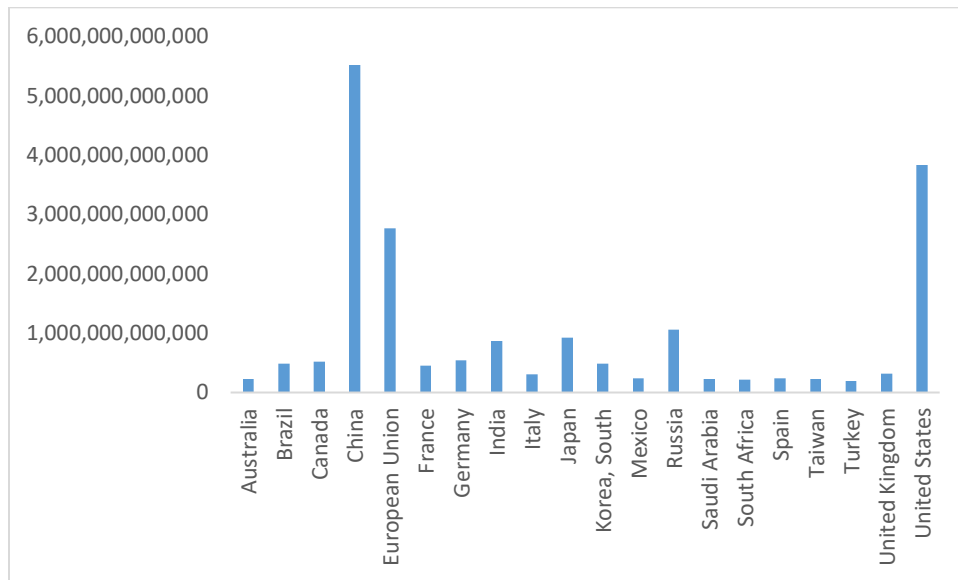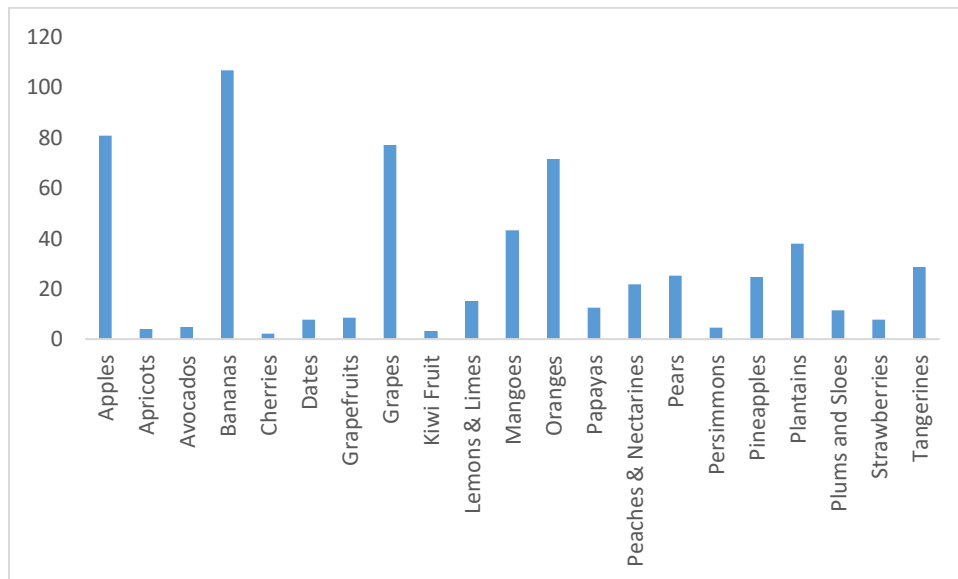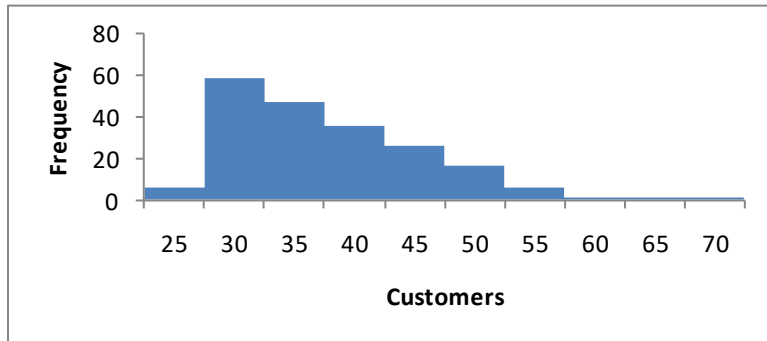**2.15**

2.16
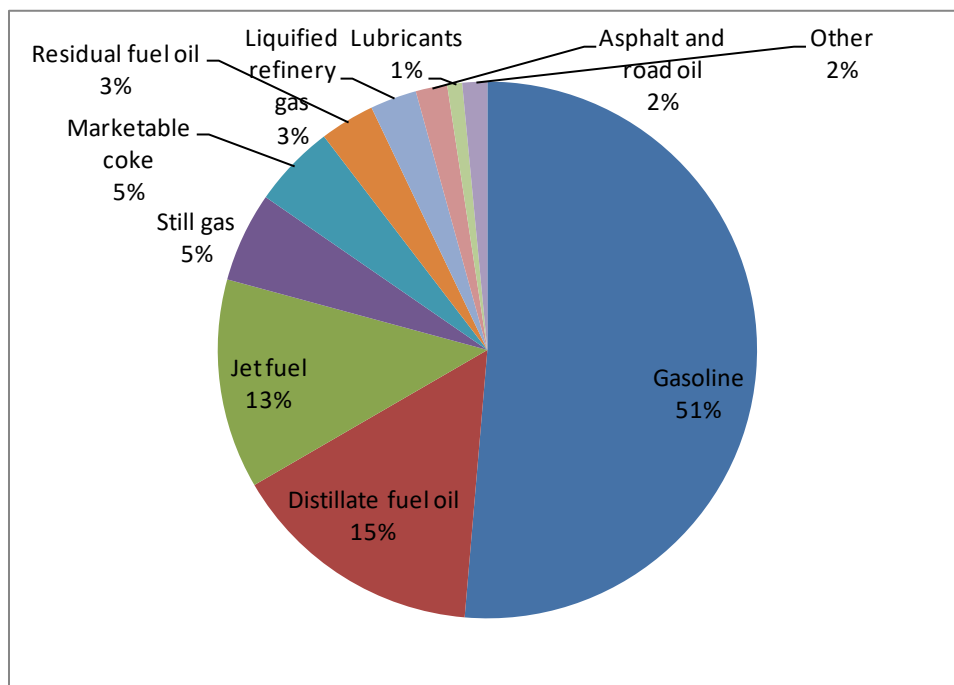
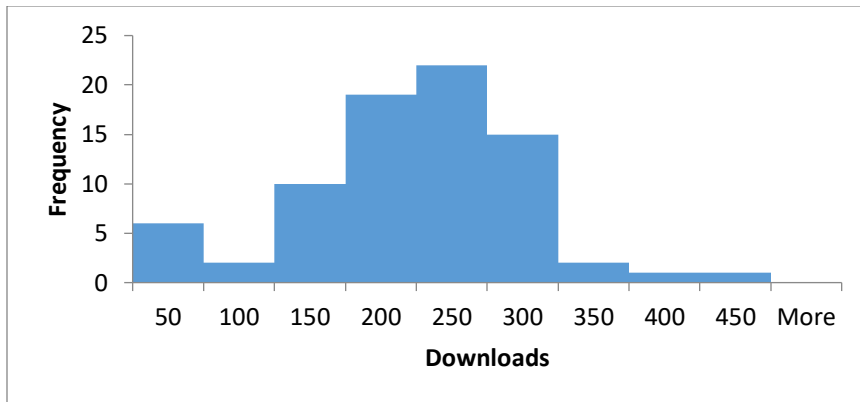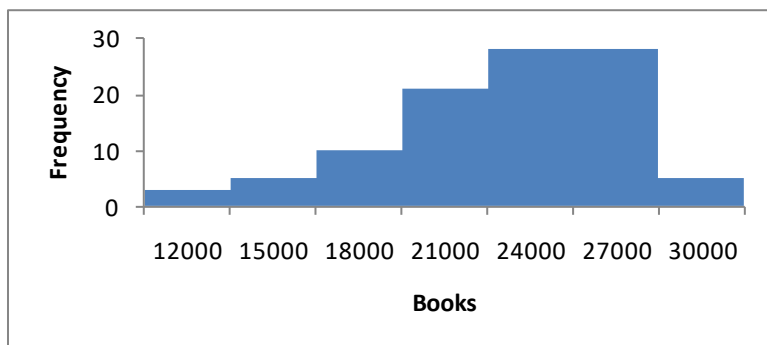**2.17**

2.24

3.13

The histogram is unimodal and positively skewed.

The histogram is somewhat bell shaped.

3.20

The histogram of the number of books shipped daily is negatively skewed. It appears that there is a maximum number that the company can ship.

3.30

Price indices are a series of numbers used to show the monthly movement in the prices of fixed set of goods. In general, any price index must consist of a set of prices for the selected goods and a set of corresponding weights assigned to each good in the index. Answer the following questions:

a) How is the CPI calculated?

The CPI is calculated by comparing the price of a basket of goods and services as used by an average middle income family at this moment with the price of this basket in a so-called base period.

b) How is the CPI used?

It is used as a measure of inflation and it also plays an important role in pension plan payments, old age social security and labour contracts

c) Why the movement of these prices are weighted?

Price increases in some products or services are more important than price increases in other products or services. For instance, a price increase in energy will be more influential on family expenses than a price increase in salt.

d) When is there no need for weighting?

If all products in a basket would be equally important for a consumer, then weighting would not be needed.

e) Is the CPI the best measure of inflation?

The CPI is not the best measure of inflation but is practical, efficient and easy to calculate. Better measures would require more data, work and interpreting.

f) What are the limitations of the CPI?

One of the limitations is the basket that is fixed for a number of years. Preferences of consumers tend to change rapidly so the basket needs to be updated on a regular basis to keep track of changing preferences. As a measure of inflation it tends to overestimate the effect of increasing prices since consumers often will change their consumption pattern to save money.
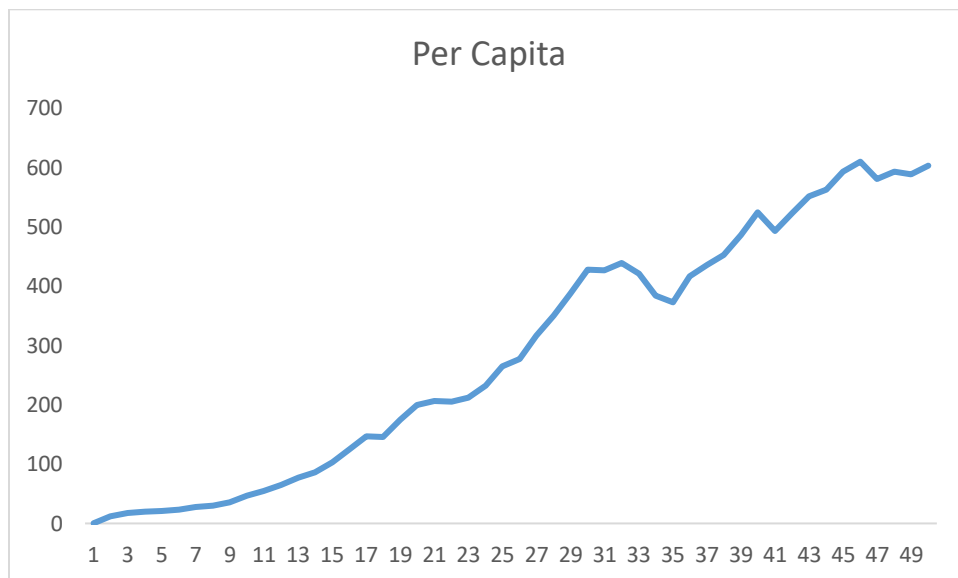
g) List all the indices you know.

Dow Jones index, AEX index; Nikkei 225 index; London Stock Exchange index, Cost of living index; New York Stock Exchange index, House price index etc
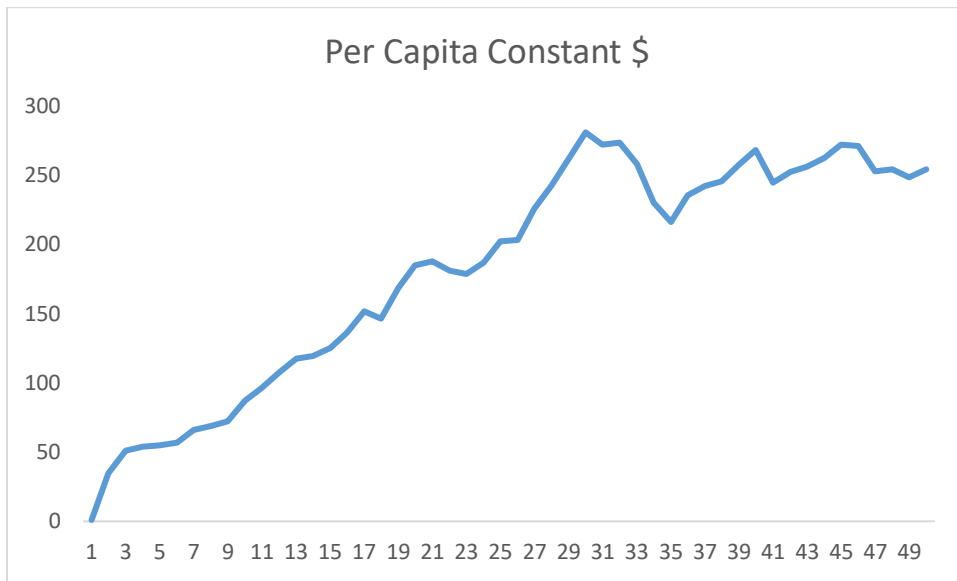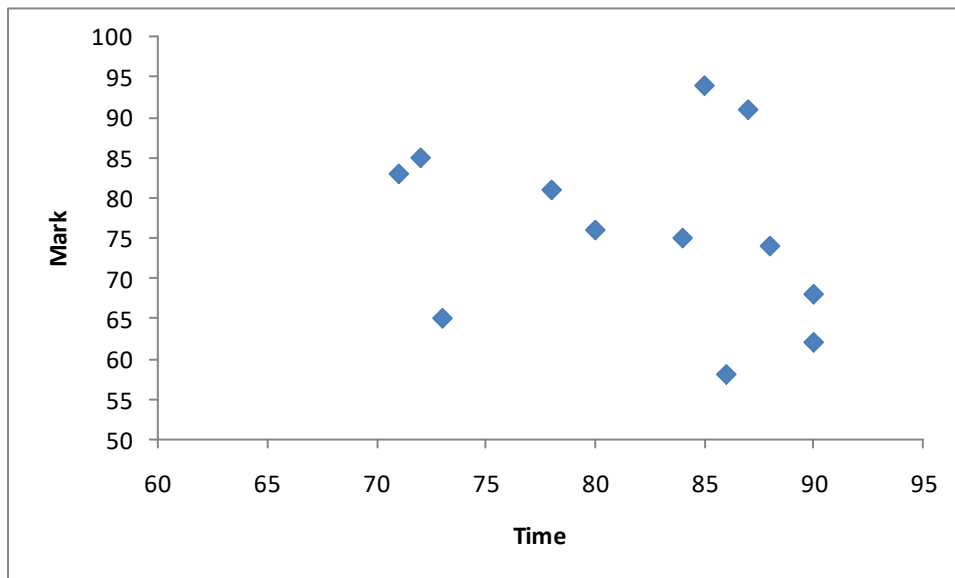
3.32

a

Part A (Hospital Insurance)

b

Per Capita

c

Per Capita Constant $
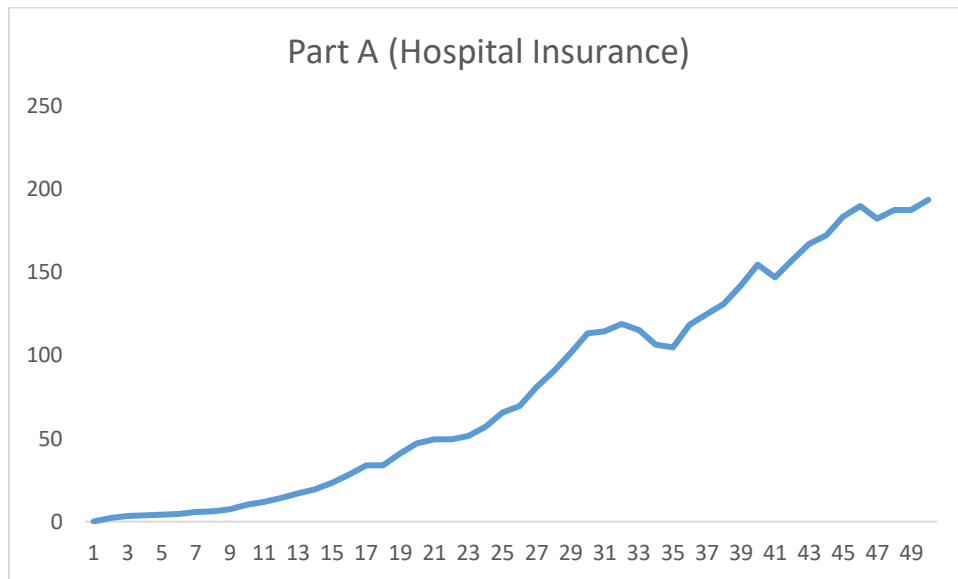
3.56

There is no linear relationship