

Practice 9: Optimization

Exercise 1: Histograms

Create from the year dates in the table below (arbitrary, extremely shortened list of important incidents in the world history) a height-balanced and a equi-distant Histogram with 10 blocks respectively.

Estimate (with the help of the histogram) the selectivity for the queries [Year<100], [Year>1600], [Year>1832 AND Year<1897], [Year>1950] and evaluate the accuracy.

- 8000 Jericho: archaeological oldest find spot of a human settlement build from stone
- 2850 King Menes confederates Upper and Lower Egypt to the „old empire“
- 2500 Cheops builds the pyramids of Giza
- 1700 Churriter (from Persia) conquer Mesopotamia and Egypt: Governance of the Hyksos (=stranger)
- 1200 Dorian and Illyrian from the North and Phoenicians from the coast of Palestine roam to Greece;
- 100 Caesar is born
- 64 Fire of Rome
- 193 The punic general Septimus Severus becomes emperor
- 284 Diokletian becomes emperor and turns Treves to the capital of the west roman empire
- 359 Council of Rimini
- 410 Pope Inozenz I. induces Alarich, the king of the visigoths, to not to destroy Rome.
- 452 King of Huns Attila expands to Italy despite the defeat 451 on the catalaunian fields
- 529 St. Benedikt founds the abbey of Monte Cassino
- 678 Constantine IV. makes the thirty-year peace with the Arabian.
- 768 Son of Pippin, Charles, becomes king (Charlemagne). Aachen (Aix-la-Chapelle) becomes imperial capital.
- 919 Henry I. of Saxony founds the "Holy Roman Empire". ...
- 936 Otto I. becomes king
- 1255 Marco Polo in Peking
- 1273 End of interregnums: Rudolf of Habsburg is elected to be german king
- 1440 The habsburg Friedrich III. Becomes german king emperor until 1493
- 1618 Defenestration of Prague: The majesty's letter is disregarded; ...
- 1648 Peace of Westphalia
- 1715 Louis XV. starts his fifty-nine years lasting regency
- 1776 Washington defeats England and declares the independence of the USA
- 1787 USA enacts a constitution
- 1789 July 14th: The storming of the Bastille.
- 1812 Napoleon in Russia. Approx. 7000 Swiss die at the Berezina.
- 1813 Battle of the nations near Lipsk (Leipzig).
- 1837 Queen Victoria accedes to teh throne of England.
- 1871 End of the german-french war ...
- 1874 Total revision of the federal constiution from 1848. ...
- 1918 Peace of Brest-Litowsk. US president Wilson declares 14-points programme (right of self-determination)
- 1919 Agreement of Versaille: Almost unrealizable reparations are declared.
- 1929 Global economic crisis. Enormous gain of power for the NSDAP party of Hitler
- 1933 Reich President Hindenburg appoints Hitler Reich Chancellor cause in the meanwhile the NSDAP has 40% electors.
- 1934 Hindenburg dies and Hitler assumes his function.

Databases II

- 1939 Invasion of Poland. Begin of the 2nd World War..
- 1944 6.6. Invasion of the allies in the Normandy
- 1945 Truman, Churchill, Stalin und de Gaulle declare zones of occupation
- 1948 Blockade of berlin is negotiated via airlift.
- 1950 Communists declare the People's Republic of China and occupy Tibet.
- 1956 Rebellion of the Hungarians
- 1968 Student unrest and Prague Spring
- 1969 Moon landing
- 1971 Introduction of women's suffrage in Switzerland
- 1973 Ceasefirein Vietnam
- 1974 Watergate scandal: Nixon resigns
- 1988 Reagan and Gorbachow sign the demobilization agreement in Moscow.