Development Statistics

E01 PC based Lecture

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1 Basic Excel

- Names of parts
  - Menu bar
  - Tool bar
- View
  - Standard
  - Print Preview
  - Page Preview
- Auto-fill
  - Text
  - Number
- Height and width
- Format
  - Number, Date, etc
  - Place
  - Font
  - Pattern
  - Line
- Conditional Format

2 Data manipulation

- Data base
  - Structure
  - Code
  - Record
  - Field
- Lookup
  - =VLOOKUP()
- Data menu
  - Sorting
  - Filter
  - Aggregation
  - Input restriction
  - Data table
- Pivot table
  - Cross aggregation
  - Pivot table graph

3 Descriptive statistics

- Average
- Variance and Standard deviation
- Maximum and Minimum
- Summation
- Growth rate
- Share
- Contribution

4 Graph

- Basic graph
  - Bar
  - Line
  - Scatter
  - Pie
- User graph
  - Line and bar
  - Line and Line
- Option
  - Vertical axis
  - Series
  - Legend
  - Data label
  - Format
  - Place
- Application technique
  - Two graphs in a sheet

5 Functions

- Mathematics
  - =Log()
  - =Exp()
  - =Round()
- Dates
  - =Today()
  - =Month()
- Text
  - =Left()
  - =Mid()
  - =Right()
- Database
  - =Daverage()
  - =Dsum()
- Lookup
  - =Vlookup()
- Matrix
  - {=Mmult()}
  - {=Minverse()}
- Financs
  - =PMT()

6 Calculation Tool

- Goal seek tool
  - One variable equation
  - For example, solving a equation
- Solver tool
  - Multi variable optimization
  - For example, linear programming
- Analyzing tool
  - Regression
  - Variance analysis

7 Statistics functions

- Descriptive statistics function
  - =MAX(), =MIN()
  - =AVEARAGE(), =VAR(), VARP()
- Histogram
  - {=Frequency()}
- Distribution statistics function
  - Density function of normal distribution
  - Distribution function of normal distribution
- Application of normal distribution
  - Deviation value (偏差値)

8 Application of statistics

- Analyzing tool
  - Regression
  - Variance Analysis
- Chi square test
  - Adaptation test
- T-test
  - Test of average
  - Test of the difference of averages
  - Teat of ratio