WWCode Accra Maiden Events

SAS Studio Demonstration
[Intro to SAS Programming]

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SAS (Statistical Analysis Software)

Company Facts & Financials

Customer

Number of Countries Installed
SAS has customers in 138 countries.

Total Worldwide Customer Sites
Our software is installed at more than 75,000 business, government and university sites.

Fortune Global 500 Customers
93 of the top 100 companies on the 2014 Fortune Global 500 are SAS customers.

Employee

Worldwide Employees
13,945 total employees

Breakdown by Geography
United States: 7,067
    World Headquarters (Cary, NC): 5,523
Canada: 334
Latin America: 453
Europe, Middle East and Africa: 3,781
Asia Pacific: 2,310

Financial

Worldwide Revenue
2014 Revenue: US$3.09 billion

Annual Revenue 1976 - 2014

US$3.09B
2014

$3.0B
$2.5B
$2.0B
$1.5B
$1.0B
$0.5B

1976 1980 1985 1990 1995 2000 2005 2010 2014
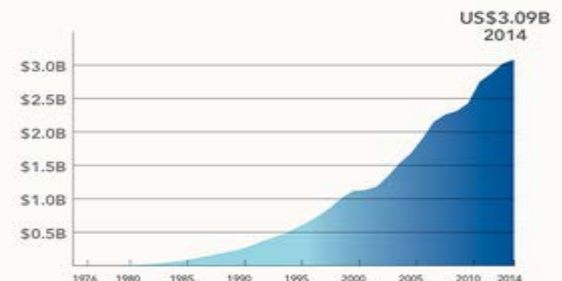
CONTINUOUS REVENUE GROWTH SINCE 1976

SAS achieved record revenue of US$3.09 billion, up 2.3 percent over 2013.

Reinvestment in R&D
2014 R&D investment: 23% of revenue

- Founded in 1976
- Based in Cary, North Carolina
- Current CEO: Jim Goodnight

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What can I do with SAS?

- **SAS is an integrated software suite for:**
  - Advanced Analytics
  - Business Intelligence
  - Data Management
  - Predictive Analytics

- **SAS enables you to:**
  - Access data in almost any format, including SAS tables, Microsoft Excel tables and database files
  - Manage and manipulate your existing data to get the data that you need
    - Example: subset your data, combine with other data, and create new columns
  - Analyze your data using statistical techniques ranging from descriptive measures like correlations to logistic regression et cetera
  - Present the results of your analyses in a meaningful report that you can share with others. The reports that you create can be saved in a wide variety of formats, including HTML, PDF and RTF
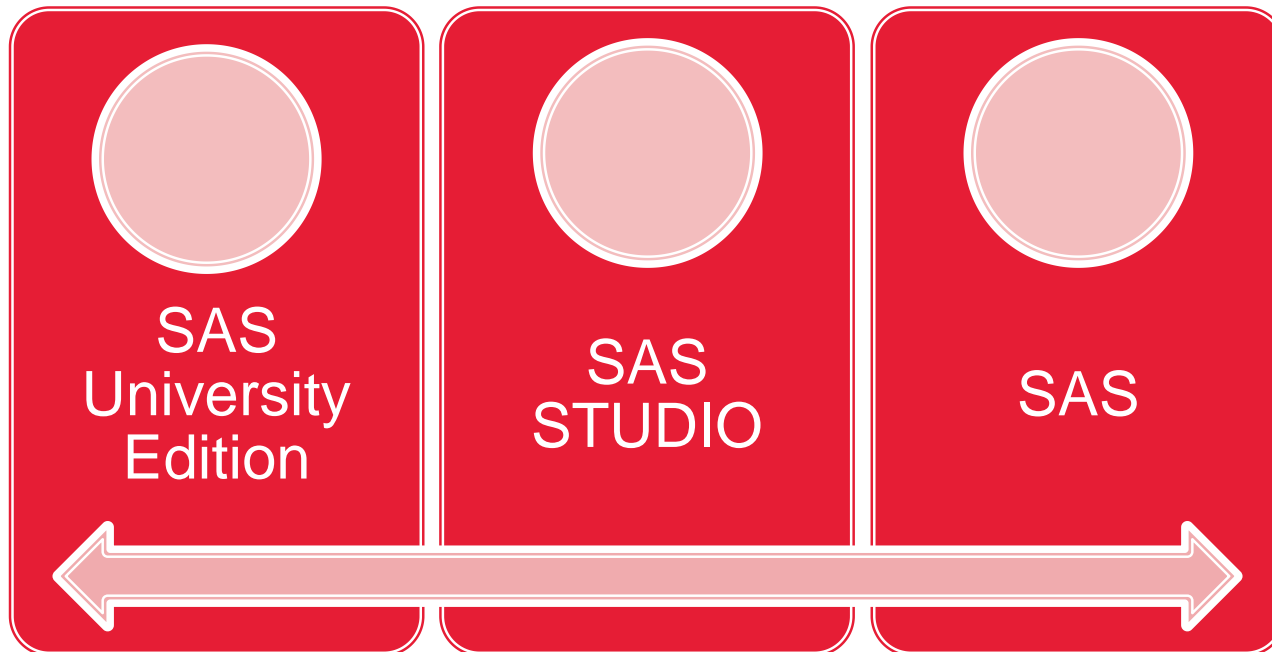
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SAS University Edition

- **Free Version of SAS**

What is SAS Studio?

SAS University Edition	SAS STUDIO	SAS

- When you use the SAS University Edition, you are using SAS Studio to access SAS
- SAS Studio differs from other applications used for SAS because after writing SAS codes, you run through your web browser
- In using SAS Studio, you use SAS Software behind the scenes

Download | Install

- **SAS**

  – **Go to: http://www.sas.com/en_ca/software/university-edition/download-software.html**

Download SAS® University Edition

Before You Begin

To ensure a smooth, trouble-free installation, make sure that your desktop or laptop computer meets the minimum system requirements for your operating system:

| Windows | OS X | Linux |

- Microsoft Windows 7, 8 or 8.1

- 64-bit hardware with a minimum of 1GB of RAM

- One of the following virtualization software packages:
  - Oracle VM VirtualBox 4.3.16 or later
  - VMware Player 7 or later
  - VMware Workstation 12 Player for Windows

- One of the following web browsers:
  - Microsoft Internet Explorer 9, 10 or 11
  - Mozilla Firefox 21 or later
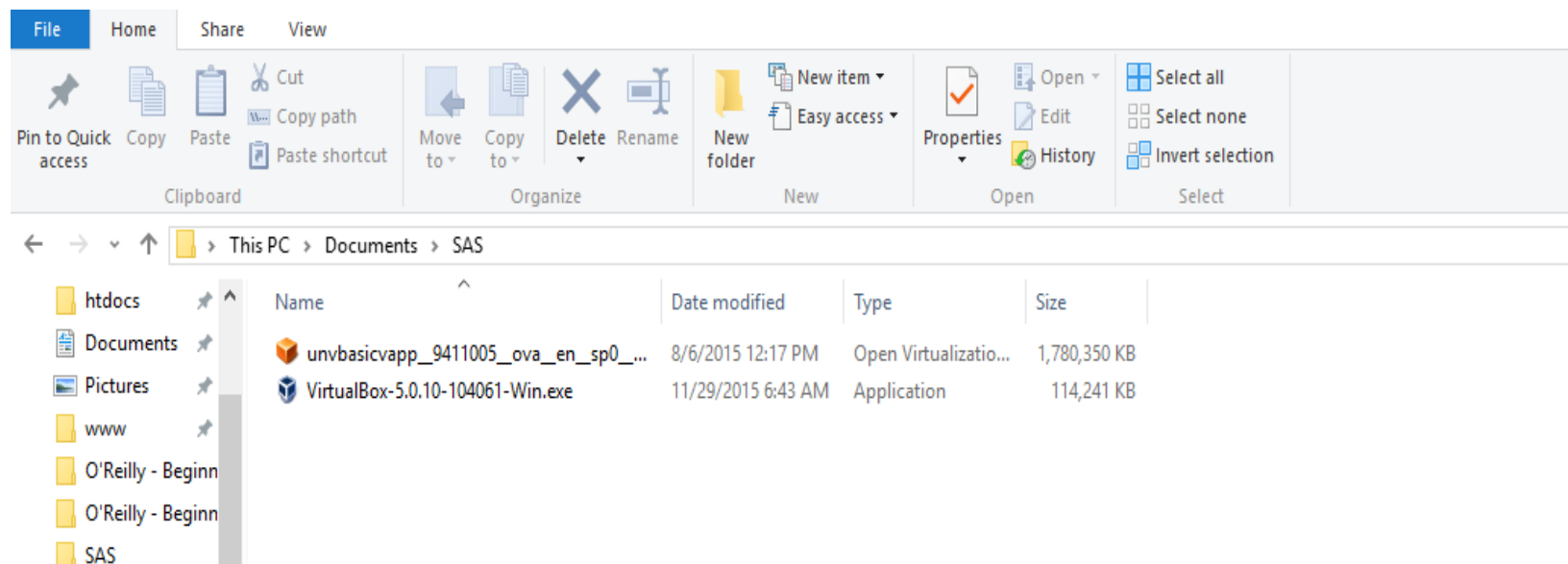 - Google Chrome 27 or later

Got a question? Need help?

Email us
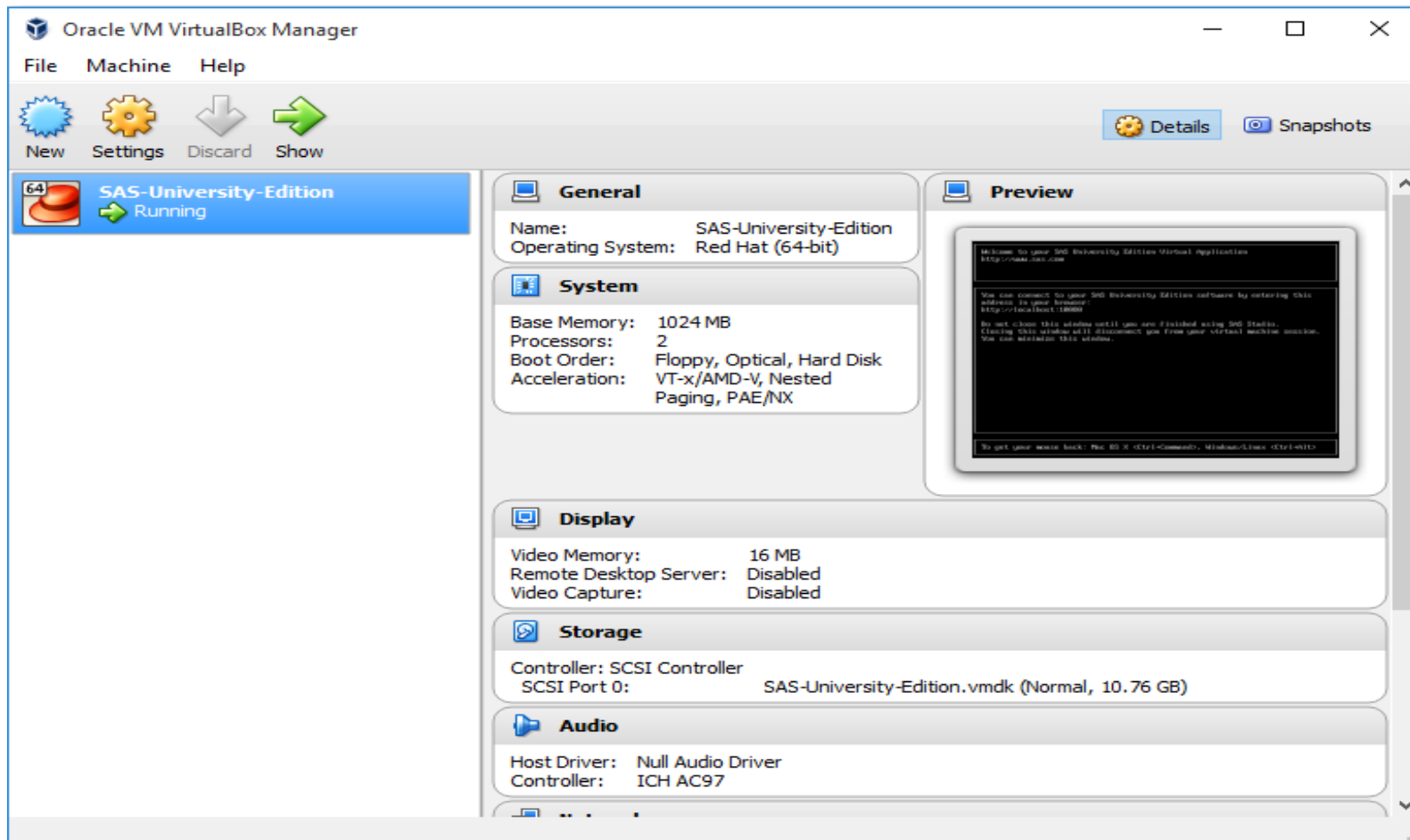
Ask the SAS Analytics U Community

Or call
800-727-0025 FREE, option 2 (in the US or Canada)

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Key Files to Download

- **SAS**

- **Virtual Software**

Install Virtual Software| Add in SAS
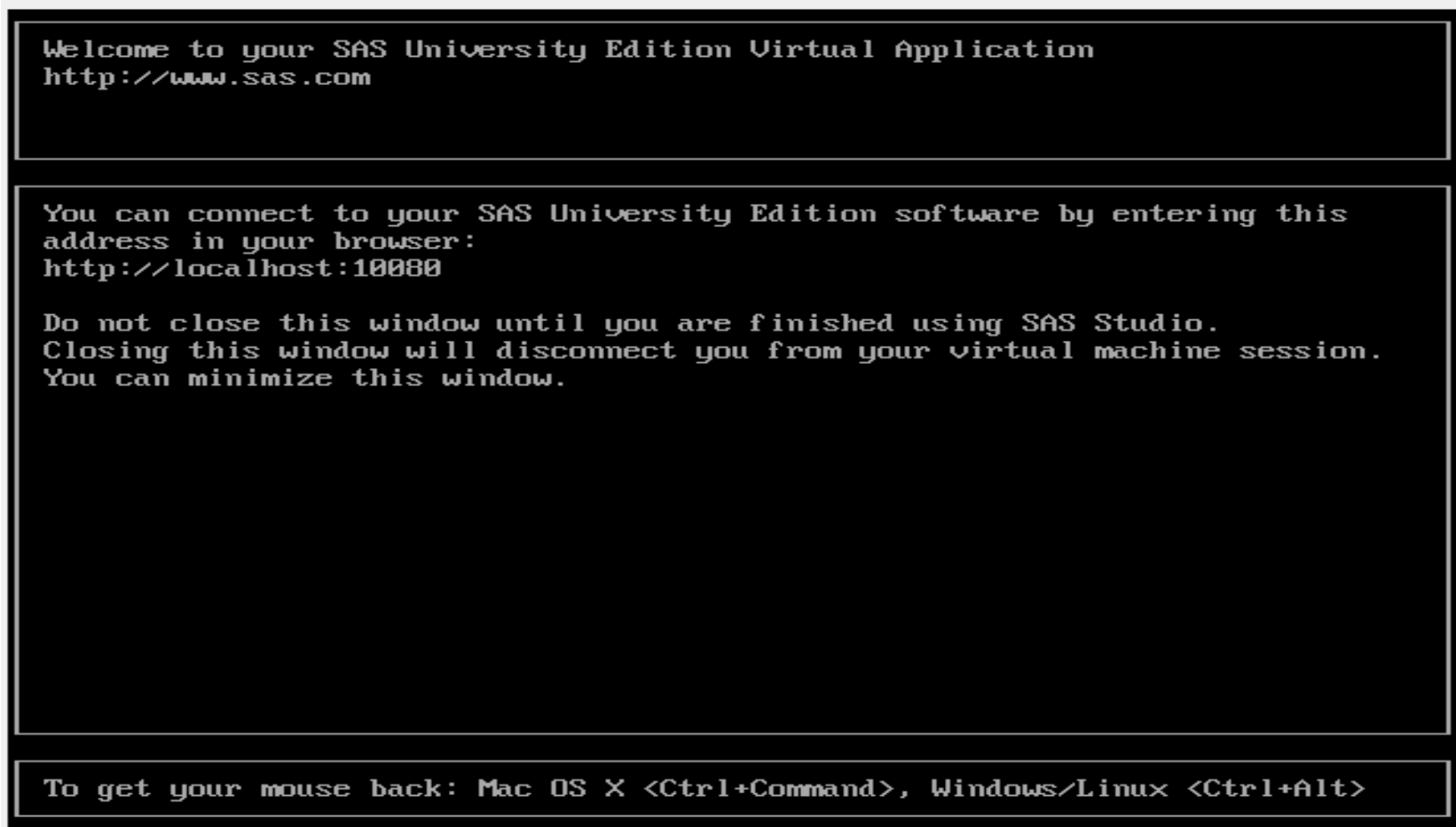
Launch SAS

- **Copy: http://localhost:10080 into a new web browser.**

Welcome to your SAS University Edition Virtual Application
http://www.sas.com

You can connect to your SAS University Edition software by entering this
address in your browser:
http://localhost:10080

Do not close this window until you are finished using SAS Studio.
Closing this window will disconnect you from your virtual machine session.
You can minimize this window.

To get your mouse back: Mac OS X <Ctrl+Command>, Windows/Linux <Ctrl+Alt>

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First Interface of SAS Studio

- **Please go through Links on the Right especially: "Frequently Asked Questions (FAQ)"**

What is a shared folder?

- A shared folder contains the following content:
    - Any preferences or settings that you specify in SAS Studio
    - Any data and results that you want to access from the SAS University Edition vApp
    - Any data and results that you want to access from your local computer [relevant for today's session]
- Create two folders:

    - SASUniversityEdition

    - myfolders
        - C:\Users\aowusu-forfie\Desktop\WWCode Accra Curriculum\MaidenEvents_Nov28_Dec12\Dec4-SAS STUDIO DEMO\SASUniversityEdition\myfolders

NOTE: In SAS Studio, the entire path will be referenced as:
    < /folders/myfolders>

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Connect | SAS Studio with Created Folders

- **Choose: Settings➔ Shared Folders ➔ Add icon …**
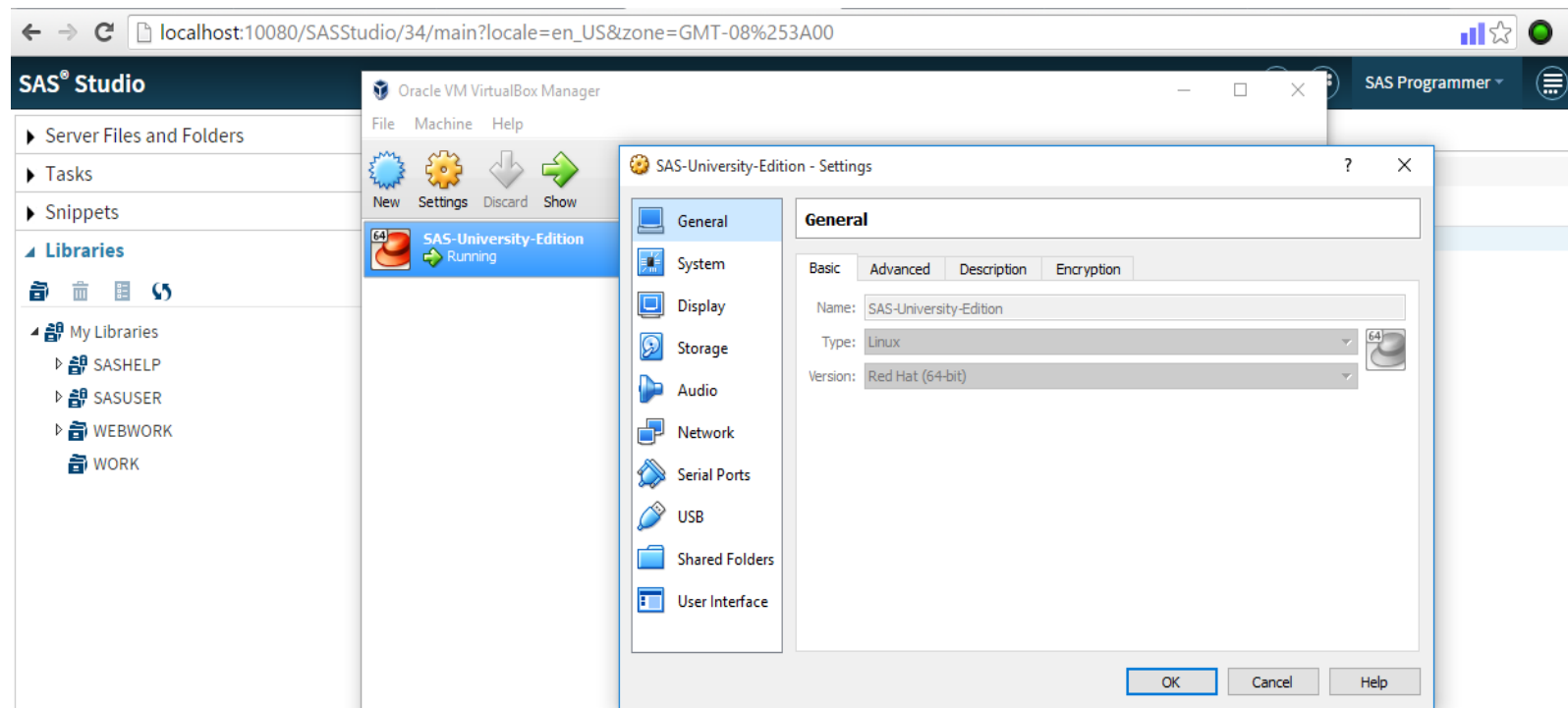
Components of a SAS Program

These two types of steps, alone or combined, form most SAS programs.

DATA Step

A SAS program can consist of a DATA step

PROC Step

or a PROC step

DATA Step

or any combination of DATA and PROC steps.

PROC Step

PROC Step

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DATA STEP | PROC STEP

DATA step typically creates or modifies SAS dataset
- Used to create custom designed reports.
  Example:
(i) Put your data in a SAS dataset
(ii) Compute values
(iii) Check for and correct errors in your data
(iv) Produce new SAS datasets by merging, subsetting and updating existing datasets

PROC (Procedure) steps are pre-written routines that enable you to analyze and process the data in a SAS dataset and to present the data in the form of a report.
Example:
(i) Create a report that lists the data
(ii) Produce descriptive statistics
(iii) Create a summary report
(iv) Produce plots and charts

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Rules for SAS Names | Variable Types

Rules

- Can be 1 to 32 Characters long
- Must begin with a letter (A-Z) (either uppercase or lowercase) or underscore (_).
- Can continue with any combination of numbers, letters or underscores

Types of Variables:

- Character
- Numeric

Read Commentary Notes in Word Documents

- Chapter1_Commentary on Base SAS.docx
- Chapter2_Commentary on Base SAS.docx

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List of Concepts

- Difference between a Temporary and Permanent SAS datasets
- Import an Excel Sheet in SAS ([Watch Video](#))
- Access existing Datasets ([Watch Video](#))
- Look at contents of a SAS dataset
- Merge Two Datasets
- SAS Macro
- SAS Pie Chart/Bar Graph

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Questions?

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References

- 1st & 2nd Chapter of Official Base SAS Certification Book
- Online resources from www.sas.com

SAS Resource Persons

- Afia Owusu-Forfie
- Anna Yakovleva
- Vrinda

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