1. Basics

SAS Basics

Creating Tables

Example SAS code to create a table

```
data weight_club;
input IdNumber 1-4 Name $ 6-24 Team $ StartWeight EndWeight;
Loss = StartWeight - EndWeight;
datalines;
1023 David Shaw        red 189 165
1049 Amelia Serrano    yellow 145 124
1219 Alan Nance        red 210 192
1246 Ravi Sinha        yellow 194 177
1078 Ashley McKnight   red 127 118
;
run;
```

`data` keyword is used to define the table name (table names must not contain spaces)

`input` keyword is used to define the column names.

`IdNumber 1-4` is used to state that the characters in position `1-4` of each row would fall under the column `IdNumber` and similarly for `Name $ 6-24`. This eliminates the need of delimiters.

The `$` after `Name` and `Team` indicates that values of the `Name` and `Team` columns are strings.

`Loss = StartWeight - EndWeight` is used to defined a new colum named `Loss` derived from `StartWeight` and `EndWeight`.

`dataline` or `cards` is used to indicate the beginning of the table.

All command lines end with semicolons `;`.

Example of SAS code to create a table with missing values

```
data weight_club;
input IdNumber 1-4 Name $ 6-24 Team $ StartWeight EndWeight;
Loss = StartWeight - EndWeight;
cards;
     David Shaw        red 189 165
1049 Amelia Serrano    . 145 124
1219 Alan Nance        red . 192
1246 Ravi Sinha        yellow 194 .
1078 Ashley McKnight   red 127 118
;
run;
```

Classwork 1

```
data company_data;
input Sr_No 1-2 Company $ 4-17 NCI_2021 NCI_2020 NCI_2019 NCI_2018 NCI_2017;
NCI_Avg = ( NCI_2021 + NCI_2020 + NCI_2019 + NCI_2018 + NCI_2017 ) / 5;
cards;
1  RIL           74257 -143583 -53949 -59109 -54949
2  ICICI Bank    -54185.5 -36945.4 -24040.8 -38965.6 7000.3
3  Axis Bank     -54179.7 -9667.6 -18748.5 -10252.7 -12632.7
4  IOCL          -22154 -26882.4 -20771.5 -15778.7 -14733.9
5  Tata Steel    ;13008.5 -17634.7 -16 .7 - 1482.4;4 SteF  -9109 0    -1109;4 -54187.67636109
               ;
               run;$
```

```
proc print data = user_data;
```

data command is used to specify the table name of the imported table.

infile is used to specify the file path of the external data.

Importing from Excel file

Example SAS code to import a table from excel file

```
proc import datafile = '/home/u59242738/Data Files/Uni/SAS Data1.xlsx'
out = user_data_2
dbms = xlsx replace;
run;
```

proc import command is used to import external data from an excel file.

datafile argument specifies the path of the file to be imported.

out argument is used to specify the table name of the imported data.

dbms argument is used to specify the dbms / file type in which case it's **xlsx**.

Example SAS code to copy a table onto a new one and add a derived column

```
data user_data_new;
set user_data_2;
Loss = StartWeight - EndWeight;
run;

proc print data = user_data_new;
```

set command is used to specify the table to be copied from

Commenting

Syntax for comments

```
* this is a single line comment;

/* this is a
multi line comment */
```

Single line comments are enclosed in ***** and **;**

Multi line comments are enclosed in **/*** and ***/**