Math 475 Homework 1

This homework is intended to help you get started with SAS.

Due Wednesday 31st August at the beginning of lecture

Multiple Choice

1. Which of the following is <u>not</u> a comment in `SAS`?

(a) `/* I am not a comment */`

(b) `* I am not a comment ;`

(c) `/* * I am not a comment; */`

(d) All of the above are valid comments.

2. Which of the following is a valid variable name?

(a) `AbCdEfGhIjKlMnOpQrStUvWxYz`

(b) `%Change`

(c) `Debt-Ratio`

(d) `1stProcedure`

3. In `SAS` data sets, missing numeric data are represented by:

(a) A single space

(b) A single period

(c) Any number of spaces

(d) Any of the above

4. How many `SAS` statements does this program contain?

```
DATA instock; INFILE supply;
        INPUT Brand $
                Model $
                Quantity;
```

```
        RUN;
        PROC PRINT DATA = instock;
        RUN;
```

(a) 2

(b) 3

(c) 6

(d) 7

5. Which statement does not indicate the end of a `DATA` or `PROC` step?

(a) STOP

(b) QUIT

(c) END

(d) RUN

6. By default, `SAS` will execute the `DATA` step one time each for which of the following?

(a) Variable

(b) Observation

(c) Data set

(d) Procedure

7. If a program does not run correctly, where can you find the error messages?

(a) The end of the program

(b) The log

(c) The results

(d) The output

8. What is the main difference in the naming convention for **SAS** librefs versus **SAS** variables?

(a) Librefs can contain special characters

(b) Variable names are case sensitive

(c) Librefs can only be up to 8 characters in length

(d) Variable names can contain underscores

9. Suppose you submit the following code. Any output formatted for printing that is created after this statement will have what characteristics?

```
OPTIONS NUMBER NOCENTER;
```

(a) Left-justified with no pages numbers and no date

(b) Left-justified with no page numbers with today's date

(c) Left-justified with page numbers and no date

(d) Left-justified with page numbers with today's date

Short Answer

10. Would the layout of the following `PROC PRINT` code cause `SAS` to produce an error? Explain why or why not, and rewrite the code so that it is more organized.

This layout would not cause SAS to produce an error, as SAS statements can continue on the next line as long as words are not split, they can be on the same line as other statements, and they can start in any column.

```
PROC
        PRINT
DATA = new;                    RUN;
```

rewrite:
PROC PRINT DATA = new;
RUN;

11. Suppose that you need to record information on the annual salary of employees as a variable in a `SAS` data set. Would it be better to store this information as a character or numeric variable? Explain your choice.

It would be better to store this as a numeric variable because annual salary will only contain numbers and we may need them for computations later.

12. Some people say 'SAS programs always begin with a `DATA` step.' Is that true? Explain why or why not.

No, although starting with a DATA step is normally the case, users can arrange DATA and PROC steps in any order.

13. Explain in what order `SAS` processes observations in a `DATA` step.

SAS processes line by line for each observation in a DATA step, and it executes observation by observation.

14. Which will occur first: execution of the last statement in the `DATA` step or reading of the last observation in an input data set? Explain your choice.

Unless there is only one observation in an input data set, which makes it both the first and last observation, execution of the last statement in the DATA step will occur before reading of the last observation, as SAS executes line by line and observation by observation, and it would have executed the last statement in DATA step after reading the first observation, which would occur before reaching the last observation.