Exam Rules

• No collaboration, notes, or other outside resources are allowed.

• Save solutions to all problems in a single SAS file and upload it to Blackboard. Grading will be based on the submitted code. Do not upload any datasets or other files.

• Include your name in the name of the SAS file.

• Multiple attempts are allowed as long as they are submitted before the deadline. The most recent attempt submitted <u>before</u> the deadline will be the one that is graded.

• Points will be deducted from late submissions.

Question 6

The **Fibonacci Sequence** has the property that

$$F_n = F_{n-1} + F_{n-2},$$

with the starting values

$$F_1 = 1 \text{ and } F_2 = 1$$

The first few terms are 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, …

From the above, it can be seen that F_{10}, the 10th term in the sequence, is 55 (21 + 34). Using SAS, determine F_{50}, the 50th term of the sequence.

Question 7

Quiz_results.sas7bdat contains the results from 8 quizzes for some students.

The professor is very generous, and decided to drop the lowest score before calculating the average.

Use an array to determine the average score for each student, considering that the lowest score is dropped.

Your solution must use an array.

After calculating the averages, sort the dataset by average score, such that the student with the highest score is the first observation.

Question 8

Quiz_results.sas7bdat contains the results from 8 quizzes for some students.

For Quiz8, calculate the overall average, minimum, and maximum scores from the class. Use the Retain statement and/or the Sum statement.

Then, to verify your calculations are correct, calculate the same statistics for Quiz8 using Proc Means.

Question 9

Quiz_results.sas7bdat contains the results from 8 quizzes for some students.

Study_Hours.sas7bdat contains the number of minutes each student spent studying for Quiz8.

Determine the correlation between the number of minutes spent studying and the score for Quiz8.

Question 10

Export the dataset Address_Book.sas7bdat into a text file, according to the following layout:

Columns 1-2: Observation number (1, 2, etc.)

Column 3: a period symbol (.)

Columns 5-25: Last Name

Columns 26-45: First Name

Columns 46-59: Phone Number (with area code in parentheses)

Example of result:

```
 9. Cabana              Meda           (987) 830-8066
10. Castilla            Charis         (477) 366-0943
```

The text file must be in alphabetical order by Last Name.

Question 11

User_database.sas7bdat contains user names and passwords for several hundred users of a website. When a password is entered, we must verify it's correct.

Create a macro that takes in the user name and password as inputs, and prints to the log whether or not the password is correct (the password is correct if the combination of user name and password that are entered can be found in the database of user names).

The input should look like this:

```
%password_check(Allegra_286, chevy);
```

The output should look like this (depending on the result):

```
"Password is correct"

"Password is wrong"

"User name can not be found"
```

Appendix I – Point Distribution

Question	Points
6	16
7	14
8	12
9	8
10	12
11	18
Part II Total	80

Appendix II – Macro Options Statement

Options mprint mlogic symbolgen ;