Bios 520 Homework #4 Name\_\_\_\_Cathy Zhuang\_\_\_\_\_\_\_\_

In each of the 3 questions, you will need to indicate the treatment assignment for the patients indicated. You will need to submit your SAS or R program. If you choose to use R, see some sample code at the end of this document. For each of the questions, state which rule you followed in deciding whether a subject would receive aspirin or placebo (i.e what treatment is assigned for odd or even numbers).

15 pts each (total 45 points)

1.Consider the Physicians Health Study, where subjects were randomized either to aspirin or placebo. Assume equal allocation.

Simple randomization. Using the seed 938134 in the SAS code on slide #33 (entitled ‘How to perform a simple randomization’) in the lecture 5 slide deck and starting with the first line in the output, determine the treatment allocation of the first eight recruited subjects (who have given consent and satisfied eligibility criteria). Mark X to specify the treatment group for each subject.

Asp stands for ‘aspirin’; Pla stands for ‘placebo.’

Even numbers received aspirin, while odd numbers received placebo.

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2. Block randomization. With block size = 4, the blocks are AABB, ABAB, ABBA, BAAB, BABA, BBAA. Using the seed 938134 in the SAS code I showed in class and starting with the first line in the output, determine the treatment allocation of the first eight subjects. Mark X to specify the treatment group for each subject.

Let A be aspirin treatment; let B be placebo.

Let block 1 = AABB, block 2 = ABAB, block 3 = ABBA, block 4 = BAAB, block 5 = BABA, block 6 = BBAA.

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The blocks chosen are block 6 and block 3, which correspond to BBAA and ABBA.

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3. **Stratified randomization**: stratifying for gender (male,female) and diabetes status (yes, no). With block size = 2, the blocks are AB and BA. Note that a different seed (shown in the table below) is used for each stratum. You need to indicate the treatment assignment for the first 4 subjects in each of the 4 strata below.

Let A be aspirin treatment; let B be placebo. Let block 1 = AB and block 2 = BA.

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NOTE: Sample R code to get random numbers.

set.seed(938134)

randnum <- round(runif(100, 0, 9))