CSCI 4200 Fall 2024

Project 2

80 points

Due: 11:59 PM, 11/4, 2024

1. Rewrite the following code segment using a multiple-selection statement in the following languages:

if ((k == 1) || (k == 2)) j = 2 \* k - 1

if ((k == 3) || (k == 5)) j = 3 \* k + 1

if (k == 4) j = 4 \* k - 1

if ((k == 6) || (k == 7) || (k == 8)) j = k - 2

1. Java
2. Python

Please add the input statements and output statements to display the results. In your lab report, please display at least three cases of different input of k and their corresponding output of j.

1. Consider the following program fragment. Re-write it with Python.

j = -3;

key = j + 2;

**for** (i = 0; i < 10; i++){

**if** ((key == 3) || (key == 2))

j--;

**else if** (key == 0)

j += 2;

**else** j = 0;

**if** (j > 0)

**break**;

**else** j = 3 - i;

}

Please add output statements to display the values of j and key in this program.

1. Write a Python program to print a stairway \* array. The program asks for an input(between 1 and 9). For example, if the input is 3, such an array will be printed. One \* in row 1, two \*s in row 2, and three \*s in row three.

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If the input is 6, such an array will be printed. \* in row 1, two \*s in row 2, and so on.

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Once you finish each program, please write a project report after running your source code. Each project report should have the following two parts:

1. The screenshot of running result. The screenshot should be clear and big enough to recognize your running result.
2. Analysis. If your program has limitations, please specify the limitations. Otherwise say the program meets the requirement.

Note: If your computer has no Microsoft office, please use virtual lab to connect a UNG computer to use Word in Microsoft Office or submit a PDF file. Other formats are not accepted.

This project includes 4 small programs(question 1 has 2 programs). Therefore, you are required to write four sub-reports. And then please put them in one document as your project report. For example, the following shows the components of the whole project report:

Screenshot of program 1

Analysis of program 1

Screenshot of program 2

Analysis of program 2

Screenshot of program 3

Analysis of program 3

Screenshot of program 4

Analysis of program 4

You can use any IDE for Java/Python in this project.

In summary, please submit a project report and four source programs in D2L.