MidTerm CSC5

Points for each question

Menu 10

1 15

2 10

3 20

4 20

5 10

6 15

Note: Submit the Midterm to my RCC email account mark.lehr@rcc.edu

with the following

subject: LastName,FirstName - Midterm - Section #.

Submit the solutions/programs in a zipped file.

Do the best you can and turn in as much as you can.

Do not post to Github, just an email and in Blackboard.

You must do all work yourself, no help allowed. You may

ask questions to clarify the problem.

You will have all 6 Problems/Projects including the 7th Project which

puts them all together in using the menu program found at the class

Github repository.

1) Input the number than make an X in the following way,

for instance, when you input a 5 you output.

Note: Instructor will not type in a number <1 or >50

5 1

4 2

3

4 2

5 1

when you input a 7 you output

7 1

6 2

5 3

4

5 3

6 2

7 1

if you input an even number

1 4

23

23

1 4

Use for-loops, and Flowchart this solution.

2) Read a 4 character number. Output the result in the following

format, input = 9873 as an odd output number with

3 333

7 7777777

8 88888888

9 999999999

If even and one of the numbers is not a digit, then put a NAN mark

input = 98a4 having the following format.

4 \*\*\*\*

a NAN

8 \*\*\*\*\*\*\*\*

9 \*\*\*\*\*\*\*\*\*

3) We would like to write a check. Input the following:

Date, Payee, Amount, and the account holder. Output these

in the following format, but the amount needs to be output

numerically as well as grammatically just like a check.

Range for the check amount = $1 to $1999 (integers, no

cents)

Input the following 4 values

Date: 01/01/18

Payee: John Doe

Amount: $811

Account Holder: Jane Doe

Output a written check

Jane Doe

STREET ADDRESS

CITY, STATE ZIP Date: 01/01/18

Pay to the Order of: John Doe $ 811.00

Eight Hundred Eleven and no/100s Dollars

BANK OF CSC5

FOR: GOTTA PAY THE RENT Jane Doe

4) An ISP has 3 different subscription packages

a) $16.75 per month, 5 hours access. Additional hours

are $0.85 up to 20 hours then $1 for all additional

hours.

b) $23.75 per month, 15 hours access. Additional hours

are $0.65 up to 25 hours then $0.75 for each

hour above this limit.

c) $29.95 per month unlimited access

Write a program that calculates a customer’s monthly bill.

Ask which package, and how many hours then display the monthly charge.

Also, output when customers should transition to another package and

what package that should be to save the most money. Calculate the money saved.

5) Develop an application that will determine the gross pay for

employees. The company pays "straight-time" for the

first 40 hours worked, time and a half for all hours worked in

excess of 40 hours but less than 50 hours, and double time for any

hours worked over 50 hours. Inputs to the program would be hours worked

and rate of pay. Output would be gross pay.

6) Just another sequence, use a loop to solve.

sum = x - x^3/3! + x^5/5! - x^7/7! + ............

Input x and the number of terms=n, output the result.

Note: x^1 = x, x^2 = x\*x, x^3 = x\*x\*x

3! = 1\*2\*3 5!=1\*2\*3\*4\*5

Flowchart and code this solution.