CYSE 250 Basic Cybersecurity Programming & Networking
Total Points: 400

Purpose: This assignment provides you with a deeper understanding and practical experience of fundamental concepts of Python and conditional statements.

Requirements & Submission:
1. The answers of this assignment must be submitted *electronically* on canvas.
2. Some answers require more details than just what we had discussed in lecture slides.

Question (1) (Total: 100 points)
Write a python script to find the greatest of two numbers
- Take Two numbers as input
- Use if -else condition to check the greatest of the two numbers
- Print the greatest number.

You need to submit the *.py file.

```
a = int(input("a = "))
b = int(input("b = "))
def max(a,b):
if a >= b:
return a
else:
return b
print(max(a,b))
```

Question (2)

(a) (**100 points**) Nancy teaches a science class, and her students are required to take three tests. She wants to write a program that her students can use to calculate their average test score. She also wants the program to congratulate the student enthusiastically if the average is greater than 95.
Here is the algorithm in pseudocode:

> *Get the first test score*
> *Get the second test score*
> *Get the third test score Calculate the average*
> *Display the average*
> *If the average is greater than 95: Congratulate*
> *the user*

Write a python program for the above pseudocode.

def main():

```
test1 = float(input("First test score: "))

test2 = float(input("Second test score: "))

test3 = float(input("Third test score: "))

average = (test1 + test2 + test3) / 3

print(f"Average test score is: {average:.2f}")

if average > 95:

    print("Congratulations! Excellent work!")

if __name__ == "__main__":

    main()
```

(b) (**100 points**) Chris owns an auto repair business and has several employees. If any employee works over 40 hours a week, he pays them 1.5 times their regular hourly pay rates for all hours over 40. He has asked you to design a simple payroll program that calculates an
employee's gross pay, including any overtime wages.

Hint: You design the following algorithm:
Get the number of hours worked.
Get the hourly pay rate.
If the employee worked more than 40 hours:
  Calculate and display the gross pay with overtime.
Else:
  Calculate and display the gross pay as usual.

Write a python program for the above pseudocode.

```
hours = int(input("Hours worked: "))
rate = float(input("Hourly rate: "))
if hours <= 40:
pay = hours * rate
else:
pay = 40 * rate + (hours - 40) * 1.5 * rate
print("Gross pay is $" + str(pay))
```

Question (3) (Total: 100 points)

(a) Write a python program that determines whether a bank customer qualifies for a loan. The customer must satisfy these conditions: minimum salary must be greater than $50000 and

minimum number of years of job must be greater than 3 years and credit score must be greater than equal to 650 in order to qualify a loan.

You need to make sure that the bank officer must enter these three variables from the keyboard.

```python
sal = float(input("Salary: "))
years = float(input("Years of job experience: "))
credScore = int(input("Credit Score: "))
if sal>50000 and years>3 and credScore>=650:
print("Qualified for loan!")
else:
print("Not qualified for loan.")
```

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Important! You need to do your own assignment. Do not copy and make any changes in others assignment. If you do so, you will not learn the Python concepts by copying other's answers. The examples we have discussed in lectures or in ebook chapters would help you in solving these problems. Be creative! Do something that is uniquely yours. Do something interesting and fun!