CPRG260
PYTHON PROJECT

Preparation /85
Code /140
Presentation /25
(This mark will be assigned by your partner) Participation /25

TOTAL POSSIBLE /275

PREPARATION

Your team of 2 will write and hand in the problem, analysis, algorithm, test data, and code for the project.
HAND IN EVERY – INCLUDING INFILE and OUTFILE!
Your topic may be on anything you choose, providing it is technical, ie. No sport statistics or shopping carts. For example, Linux backup, security, processes (signal handling), IPs , data testing, boot up routines, using mail server. It cannot be like anything we have done in class.
There cannot be two projects the same, not even between classes. You must get your project approved by your instructor **before** you begin writing the project.

PRE-PROCESS – to be shown to instructor PRIOR to beginning the code

1. **Decision making process**
    a. What research did you do before starting which assisted you in selecting this project.
        a. CITE RESOURCES (5)
    b. What analysis did you do to figure out what was required to complete the project (5)
    c. Cite the initial scope of the project (5)
        a. Changes ARE allowed on scope of work but as a separate entry
            i. Ie. when you change the scope of the work do NOT change the initial scope, make an entry in your logs stating the change to the initial scope
2. **Analysis - MUST BE DONE BEFORE THE PROGRAM IS WRITTEN!!** (10)
    a. Functionality, Inputs, output, constants, formulas
3. **Algorithm - MUST BE DONE BEFORE THE PROGRAM IS WRITTEN!!**
    a. OR Using the Visio Video on D2L, learn how to do a flow chart, and chart the flow for your project (10)
    Flow chars become VERY unwieldy very quickly and I STRONGLY recommend AGAINST it!
4. **Test Data- MUST BE DONE BEFORE THE PROGRAM IS WRITTEN!!** (5)

DURING PROCESS

1. Document problems encountered (5)
    a. Document the analysis done to resolve the problem (5)
    b. Document the technical troubleshooting done to resolve the problem (5)
    c. Using OneNote (or similar documentation platform) document your progress (5)
    EACH Meeting minutes will include:
        (1) Date stamp
        (2) Start time
        (3) Clear, concise title
        (4) Details on activity
        (5) Then: lesson learned and/or stop time (if no lesson learned)
        (6) Post a recap of what was accomplished

POST-ANALYSIS

1. Do a GENERAL SWOT analysis on the potential vulnerabilities in your program (5)
    a. Include:
        i. Strengths
        ii. Weaknesses
        iii. Opportunities
        iv. Threats
2. Document what part of the initial requirement analysis you missed, therefore needed to go back (5)
    a. Why did you miss that part of the problem
3. Document what you would do differently next time (5)
    a. Why would you change the above item (5)
4. What is your post-understanding of the project (5)

CODING REQUIREMENTS

1. Transliteration (2)
2. Print report to outfile (5)
3. Date parsed out month, day, year ONLY (5)
4. Include at LEAST 3 modules (but as many as required) (3)
5. Use standard in (2)
6. Infile OR mysql (10)
    a. Must have a minimum of two columns
        i. If possible, two different data types
    b. Error check infile on open, displaying error message and program exits (5)
    c. Close infile or mysql (depending on how you opened, this maybe automatic) (1)
7. Outfile processing
    a. Error check outfile on open, displaying error message and exit program (5)
    b. All data from infile displays, plus any calculations (6)
    c. Close outfile (depending on how you opened, this maybe automatic) (1)
8. Counter – may be incremental or evaluative (5)
9. Regex (5)
10. Dictionary
    a. Create (4)
    b. Sort dictionary or array (4)
    c. Apply dictionary (6)
11. Repeat operator (2)
12. Use of two Linux commands integrated into the code (4)

FUNCTIONS

13. Star (or something like that) function create (1)
14. Call star function (1)
15. Create open infile or mysql connect function (3)
16. Call open infile or mysql connect function (2)
17. Create open outfile function (3)
18. Call open outfile function (2)
19. Another function (3)
20. Call for other function (1)

DECISION STATEMENTS

21. if statement (5)
22. Error check in if statement (2)

LOOPS

23. Looping mechanism (6)

ARRAYS

24. Array (3)
25. Use of array index (2)
26. Print data from array (3)
27. Split or join (3)
28. ONE array method, such as append, extend, delete, pop, len (5)
    (May be used with a string)

VARIABLE DECLARATIONS

29. Proper variable form and constant declaration (5)

OUTPUT

30. Does the program execute fully and does the output represent the test data provided (5)
31. Formatting and visual presentation of finished product (10)
32. Bonus mark – Use special variable (2)

MISCELLANEOUS

33. Code not highlighted and item number item specified (-25)
34. **Code not referenced – ZERO FOR ENTIRE PROJECT – does not need to be IEEE, but you must give me the URL for ANY code you found on the internet, and the name of the book author, publisher, and page numbers for code found in a book. If you had assistance from a person for a SMALL piece of code – you must give them credit. (-140)**

USING OTHER MODULES –

https://docs.python.org/2/
Get to know your python.org/2/website – it will help enormously.
You will find everything you require at **docs.python.org/2/**
Not all modules will be continually upgraded or maintained, so you may need to check the version.

A WHOLE LOTTA ANSWERS HERE!!

If you want to use a GUI – https://docs.python.org/3/faq/gui.html

Tkinter and QT are known as Python compatible

1. Print the code for all forms along with all output
2. Highlight the coding requirements
3. Hand in a the Analysis, algorithm, test data, code, infile and outfile report NAMES ON USB and documents

You may select any topic you wish. The topic must be approved by me on the first day of the assignment and there can only be one of each topic, for all classes altogether. Therefore, the sooner you select the topic, the better for you.

PRESENTATION

Each team member will present one part of the project. One member will introduce the team, the project, how the project was decided upon, what issues they encountered, how were they resolved and the SWOT analysis. The other team member will roll through the project and explain the what is does, how it functions. They will show us something that is "different"; not "this is our loop, this is our array", everyone is doing that, showing us what is different, mysql, tKinter, etc. Then explain what they had to do to use this particular code.

All team members will participate equally in the project.

I agree to not confer with outside parties or other groups regarding our program. I agree to contribute an equal share to this project. If I do not contribute an equal share, then I agree that I shall receive a mark based on my portion of the contribution, according to what my group believes I deserve to receive.

_____ _____

Name Date

_____ _____

Name Date