Developer Training Pipeline JQR – Phase I

Trainee (TE) Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Trainer (TR) Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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|  | Task | Proficiency | TE Initials | TR Initials | Date Completed |
|  | PYTHON | | | |  |
| 1.0 | Display each of the basic data types to the console window in in Python. Basic Data Types are (integer, float, double, string, char). |  |  |  |  |
| 1.0.1 | Perform basic arithmetic operations. Basic arithmetic operations are (Multiply, Divide, Add, Subtract, and the modulus operator) |  |  |  |  |
|  | FILE I/O Basics |  |  |  |  |
| 1.1.0 | Perform File I/O in Python by opening the file (tester.txt) and printing its contents to the screen. |  |  |  |  |
| 1.1.1 | Write to a file by replacing the contents of tester.txt with “contents replaced”. |  |  |  |  |
| 1.1.2 | Use File I/O to create a new file. |  |  |  |  |
|  | LOOPS |  |  |  |  |
| 1.2.0 | Demonstrate a solid understanding of For Loops. |  |  |  |  |
| 1.2.1 | Demonstrate a solid understanding of While Loops. |  |  |  |  |
| 1.2.2 | Demonstrate a solid understanding of do while loops. |  |  |  |  |
|  | Control Structures |  |  |  |  |
| 1.3.0 | Demonstrate appropriate use of an if statement |  |  |  |  |
| 1.3.1 | Demonstrate appropriate use of elif statement |  |  |  |  |
| 1.3.2 | Demonstrate appropriate use of use of else statement |  |  |  |  |
| 1.3.3 | Demonstrate appropriate use of switch statements |  |  |  |  |
|  | FUNCTIONS |  |  |  |  |
| 1.4.0 | Write a function that takes no arguments and prints something out to the screen |  |  |  |  |
| 1.4.1 | Write a function that takes arguments from the command line and prints them out to the screen. |  |  |  |  |
| 1.4.2 | Write a function that returns a value to another function. |  |  |  |  |
| 1.4.3 | Write a function that passes an argument to another function. |  |  |  |  |
|  | EXCEPTION HANDLING |  |  |  |  |
| 1.5.1 | Perform user input validation |  |  |  |  |
| 1.5.2 | Appropriately execute a try and except block and print the exception to the screen. |  |  |  |  |
| C | | | | |  |
| 2.0 | Display each of the basic data types to the console window in in Python. Basic Data Types are (integer, float, double, string, char, long). |  |  |  |  |
| 2.0.1 | Perform basic arithmetic operations. Basic arithmetic operations are (Multiply, Divide, Add, Subtract, and the modulus operator) |  |  |  |  |
|  | Display the appropriate use of PEMDAS to Add 6 to 7, then multiply by 4, and then divide by 6 and raise to the power of 2. |  |  |  |  |
|  | PROGRAM STRUCTURE |  |  |  |  |
| 2.1.1 | Define the entry point of your program |  |  |  |  |
| 2.1.2 | Define what argc and argv are in int main(int argc and int\*\* argv) |  |  |  |  |
| 2.1.3 | Explain the difference between local scope, global scope |  |  |  |  |
| 2.1.4 | Write the function a definition that returns void |  |  |  |  |
| 2.1.5 | Write a function that takes a value by argument |  |  |  |  |
| 2.1.6 | Write a function that takes a value by reference |  |  |  |  |
| 2.1.7 | What is a header file and why do we use it |  |  |  |  |
| 2.1.8 | Write a forward declaration for your functions |  |  |  |  |
| 2.1.9 | What does the keyword static mean |  |  |  |  |
| 2.1.10 | What does the keyword extern mean |  |  |  |  |
|  | ­­­POINTERS and REFERENCES |  |  |  |  |
| 2.2.0 | What is a pointer |  |  |  |  |
| 2.2.1 | Declare a integer pointer |  |  |  |  |
| 2.2.2 | Dereference the integer pointer to get its value |  |  |  |  |
| 2.2.3 | Print the address of the integer pointer |  |  |  |  |
| 2.2.4 | Assign a int pointer to an existing value |  |  |  |  |
| 2.2.5 | Define the difference between a array and a pointer |  |  |  |  |
| 2.2.6 | Create a dynamically sized array |  |  |  |  |
|  | FILE I/O Basics |  |  |  |  |
| 2.3.0 | Open the file (Ctester.txt) |  |  |  |  |
| 2.3.1 | Read the contents of the file (Ctester.txt) and print it to the console |  |  |  |  |
| 2.3.2 | Write to a file by replacing the contents of tester.txt with “contents replaced”. |  |  |  |  |
| 2.3.3 | Use File I/O to create a new file. |  |  |  |  |
|  | LOOPS |  |  |  |  |
| 2.3.4 | Demonstrate a solid understanding of For Loops. |  |  |  |  |
| 2.3.5 | Demonstrate a solid understanding of While Loops. |  |  |  |  |
| 2.3.6 | Demonstrate a solid understanding of do while loops. |  |  |  |  |
|  | Control Structures |  |  |  |  |
| 2.4.0 | Demonstrate appropriate use of an if statement |  |  |  |  |
| 2.4.1 | Demonstrate appropriate use of else if statement |  |  |  |  |
| 2.4.2 | Demonstrate appropriate use of use of else statement |  |  |  |  |
| 2.4.3 | Demonstrate appropriate use of switch statements |  |  |  |  |
|  | FUNCTIONS |  |  |  |  |
| 2.5.0 | Write a function that takes no arguments and prints something out to the screen |  |  |  |  |
| 2.5.1 | Write a function that takes arguments from the command line and prints them out to the screen. |  |  |  |  |
| 2.5.1 | Write a function that returns a value to another function. |  |  |  |  |
| 2.5.2 | Write a function that passes an argument to another function. |  |  |  |  |
|  | Write a recursive function that counts down to 0 from 20. |  |  |  |  |
|  | EXCEPTION HANDLING |  |  |  |  |
| 2.6.0 | Perform user input validation |  |  |  |  |
| 2.6.1 | Implement a try catch block. |  |  |  |  |