



Charles Darwin University

Final Examination

Family Name						
Given Name/s						
Student Number						
Teaching Period	Semester 2, 2019					

HIT137 – Software Now	DURATION	
	Reading Time:	10 minutes
	Writing Time:	180 minutes
INSTRUCTIONS TO CANDIDATES		
This question paper contains only one section and you must answer all questions.		
EXAM CONDITIONS		
<u>You may begin writing from the commencement of the examination session.</u> The reading time indicated above is provided as a guide only.		
This is a RESTRICTED OPEN BOOK examination		
No calculators are permitted		
One A4 sheet of handwritten single-sided notes permitted		
No dictionaries are permitted		
ADDITIONAL AUTHORISED MATERIALS	EXAMINATION MATERIALS TO BE SUPPLIED	
No additional printed material is permitted	1 x 20 Page Book	

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DOUBLE-SIDED.

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Section A

Answer all questions.

Total No of Marks for this Section: 100

This section should be answered on the Answer Sheet provided. Please ensure that your name and student number have been written on the Answer sheet and placed in the completed Answer Booklet.

Marks for each question are indicated. Suggested time allocation for Section A: 180 mins

Question 1

Write a program that accepts the user's name (as text) and age (as a number) as input. The program should output a sentence containing the user's name and age.

(05 Marks)

Question 2

Write a python program that can compute the Fibonacci sequence of a given number from the user. The results should be printed in a comma-separated sequence on a single line.

Input number: 6

Output: 0, 1, 1, 2, 3, 5

(05 Marks)

Question 3

Define a python class that receives a series of numbers from the user and allows the user to press the "q" key to indicate that he or she is finished providing inputs. After the user presses the "q" key, the program should call another python class to print the sum of the numbers and their average.

(10 Marks)

Question 4

Write a program that accepts a range of input from the user and checks whether the input data is sorted or not. If the data series is already sorted your program should print "True" or should print "False" otherwise. You should not use any sort function for this program.

Input:

How many numbers you want to input: 3 # user input 3

Input the number: 5

Input the number: 2

Input the number: 7

Output:

False

(10 Marks)

Question 5

Write a script named copyfile.py. This script should prompt the user for the names of two text files. The contents of the first file should be input and written to the second file.

(10 Marks)

Question 6

Define a function that receives one alphanumeric word as a string and compute the sum of the numeric values placed in the word and print it in the console.

(10 Marks)

Question 7

A file concordance tracks the unique words in a file and their frequencies. Write a program that displays a concordance for a file. The program should output the unique words and their frequencies in alphabetical order.

(10 Marks)

Question 8

Write a simple student status program using python that has four options:

1. View Student Contact (email and telephone)
2. View enrolment status (enrolled / not enrolled)
3. View Student Grade
4. Quit.

You must implement classes and object for this program.

(10 Marks)

Question 9

Define a function drawCircle. The function should expect a Turtle object, the coordinates of the circle's center point, and the circle's radius as arguments and finally the function should draw the specified circle.

(10 Marks)

Question 10

Given an array of data:

array1

15	50	5	21	1	12
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Write the code for the bubble sort to sort the data and draw a table showing how the data is sorted using bubble sort.

Write the code for Binary search algorithm to find the value 15 from the sorted array. Draw the tree diagram showing the binary search of the list.

(20 Marks)