COMSATS University, Islamabad
Terminal Examination, SPRING 2019

Department of Computer Science

Class:	BS (CS) & (SE)	**Dated:**	27th June, 2019
Course Code – Title:	CSC101 – Introduction to ICT	**Time Allowed:**	2 hours
Marks:	33 Marks	**Reg #:**	SP19-BSE-061

Note: This is the Subjective Part that should be solved on the Answer sheet. Solve in sequence.

PART-III (CLO-4): [26 Marks]

Question 1-4 carry equal marks [4 * (2+3) = **20 Marks**]

Q.1 (a). Differentiate between Two-way and Nested Selection.

Q.1 (b). Given three integers, determine how many of them are equal to each other. The program must print one of these numbers: 3 (if all are the same), 2 (if two of them are equal to each other and the third is different) or 0 (if all numbers are different).

Input: 10 5 10	Output: 2

Q.2 (a). Explain the usage of Break and Continue with the help of example.

Q.2 (b). Given a sequence of integer numbers ending with the number 0. Determine the length of the widest fragment where all the elements are equal to each other.

Input: 1 2 2 2 2 1 3 1 3 3 3 1 5 5 5 0	Output: 4

Note: 2 is repeated maximum times that is 4

Q.3 (a). List is Mutable. Why? Give proper example.

Q.3 (b). Given a list of numbers, find and print the elements that appear in the list only once. The elements must be printed in the order in which they occur in the original list.

Input: 6 9 6 23 12 19 14 26	Output: 9 23 12 19 14 26

Note: Order of occurrence should be maintained.

Q.4 (a). Can a function return more than one value? If yes than how? Give proper example.

Q.4 (b). Write a program with a function that accepts a string as an argument and returns the number of vowels that the string contains. The application should have another function that accepts a string as an argument and returns the number of consonants (not vowels) that the string contains. Now, take a string from the user, pass it to these functions and display the number of vowels and the number of consonants it contains.

Input: "I like Pakistan" Vowels: 6 Consonants: 7	

Sample Employee record:

	Su	M	T	W	Th	F	Sa
Employee 0:	2	4	3	4	5	8	8
Employee 1:	7	3	4	3	3	4	4
Employee 2:	3	3	4	3	3	2	2
Employee 3:	9	3	4	7	3	4	1
Employee 4:	3	5	4	3	6	3	8
Employee 5:	3	4	4	6	3	4	4
Employee 6:	3	7	4	8	3	8	4
Employee 7:	6	3	5	9	2	7	9

Q.5. Cricket is a game having 11 players. Write a program that prompts the user to enter "Name" and "Position" of the players. Name should contain alphabets only and position should be 1-11. Once the position is assigned, it should not be assigned again to any other player. Now, display the output w.r.t. ascending position order.

Input:	Output:
Player Position: 3	Player Position 1
Name: Aslam	Name: Waqar
Player Position: 1	Player Position 2
Name: Waqar	Name: Saleem
Player Position: 2	Player Position 3
Name: Saleem	Name: Aslam
…	…

PART-IV (CLO-3): [10 Marks]

Question 6 and 7 carry equal marks **[5 * 2 = 10 Marks]**

Q.6. Prepare a flow chart for the problem illustrated in Question No. 1.

Q.7. Draw a flow chart that displays whether the input number is Lynch-Bell number or not.

Hint: Number "n" in a Lynch-Bell number such that all of its digits are different (and do not include zero) and n is divisible by each of its individual digits. For example: 135 is evenly divisible by 1, 3 and 5.

.....Good Luck.....