

**Department of Electrical Engineering**  
**Mid – Term Assignment Spring 2020**  
**Date: 19/04/2020**

**Course Details**

<b>Course Title:</b>	Programming Fundamentals	<b>Module:</b>	02
<b>Instructor:</b>	Sir Waqas	<b>Total Marks:</b>	30

**Student Details**

<b>Name:</b>	Ali Raza	<b>Student ID:</b>	16309
--------------	----------	--------------------	-------

Q1.	(a)	<p>Write a program in python where you input two integer values from user and determine if the first integer is the multiple of the second integer.</p> <pre style="color: red;"> number= input("Type your first number: ") checkomundo= input("Type your second number: ") first= int(number) % int(checkomundo) last= int(checkomundo) % int(number)  if first ==0 :print("Your first number is a multiple of the second") if last ==0 :print("Your second number is a multiple of the first") print("") if first &gt;0 :print("Your first number is NOT a multiple of the second") if last &gt;0 :print("Your second number is NOT a multiple of the first") print("") </pre>	Marks 5 CLO 1
	(b)	<p>Write a program in python for a shopping mall to determine if the customer has exceeded the credit limit on a charge account.            Program should input the following facts in five variables</p> <ol style="list-style-type: none"> <li>1. Account number</li> <li>2. Balance at the beginning of month (Beginning balance)</li> <li>3. total of all items charged by customer this month (charges)</li> <li>4. total of all credits (credits)</li> <li>5. allowed credit limit</li> </ol> <p>Calculate the new balance            New balance = Beginning balance + charges – credits            Your program must determine if the new balance exceeds the allowed credit limit. If credit limit is exceeded then program should display the message “Credit Limit exceeded.”</p> <pre style="color: red;"> // 1. Read the problem statement. // 2. Formulate the algorithm using pseudocode and top-down, stepwise refinement. // 3. Write a C program. // 4. Test, debug, and execute the C program. // // Exercise 3.18 // (Credit Limit Calculator) Develop a C program that will determine if a // department store customer has exceeded the credit limit on a charge account. // For each customer the following facts are available:  // a) Account Number // b) Balance at the beginning of the month // c) Total of all items charged by this customer this month // d) Total of all credits applied to this customer's account this month // e) Allowed credit limit  // The program should input each of these facts, calculate the new balance </pre>	Marks 5 CLO 1

	<pre> // (= beginning balance + charges - credits), and determine if the new balance // exceeds the customer's credit limit. For those whose credit limit is exceeded, // the program should display the customer's account number, credit limit, // new balance, and the message "Credit limit exceeded."  // 2. Pseudocode // Determine if a customer has exceeded their credit limit // While the user has not entered the sentinel //   Input the customer's account number //   Input the customer's balance at the beginning of the month //   Input the customer's total charges for this month //   Input the customer's total credits for this month //   Input the customer's credit limit //   Add the beginning balance to the charges this month and subtract any credits //   If the new balance is greater than the customer's credit limit //     Print the customer's account number, credit limit, new balance, and //     the message "Credit limit exceeded." //   end while  #include &lt;stdio.h&gt; #include &lt;stdbool.h&gt;  int main() {     int accountNumber;     float beginningBalance, totalCharges, totalCredits, creditLimit, accountBalance;      while(true) {         printf( "Enter account number ( -1 to end ): " );         scanf( "%d", &amp;accountNumber );          if ( accountNumber == -1 ) {             return 0;         }          printf( "Enter beginning balance: " );         scanf( "%f", &amp;beginningBalance );         printf( "Enter total charges: " );         scanf( "%f", &amp;totalCharges );         printf( "Enter total credits: " );         scanf( "%f", &amp;totalCredits );         printf( "Enter credit limit: " );         scanf( "%f", &amp;creditLimit );          accountBalance = beginningBalance + totalCharges - totalCredits;          if ( accountBalance &gt; creditLimit ) {             printf( "Account:\t%d\n", accountNumber );             printf( "Credit Limit:\t%.2f\n", creditLimit );             printf( "Balance:\t%.2f\n", accountBalance );             printf( "Credit limit exceeded.\n" );         }     }      return 0; } </pre>	
Q2.	<p>(a)</p> <ol style="list-style-type: none"> <li>Steps that involve precise sequence to solve a problem is called             <ol style="list-style-type: none"> <li>Statement</li> <li><b>Program</b></li> <li>Utility</li> <li>Routine</li> </ol> </li> <li>In an if structure statements are executed only,             <ol style="list-style-type: none"> <li>When the condition is false</li> <li>When it contain arithmetic operators</li> <li>When it contain logical operators</li> <li><b>When the condition is true</b></li> </ol> </li> <li>Which of the following can not be a variable name?             <ol style="list-style-type: none"> <li>area</li> <li>_area</li> <li><b>10area</b></li> <li>area2</li> </ol> </li> </ol>	<p>Marks 14</p> <p>CLO 1</p>



