



Daffodil International University
Department of Software Engineering
Faculty of Science & Information Technology
Midterm Examination, Spring 2025

Course Code: SE 121; Course Title: Structured Programming
Sections & Teachers: MTK(A, B), SA (C), SCS (D, E), AHZ (F, G) MSA (H), MR (I, J, M),
JIC (K, L), MSSS (N), ST (O), MRN (P), NML (Q)

Time: 1 Hour 30 Mins

Marks: 25

Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

1.	a)	Explain the output of the following expressions. (i) <pre>int x = 5; int y = x++ + 3; printf("%d", y);</pre> (ii) <pre>x = (5 < 8 && 15 > 8) 5 == 5; printf("%d", x);</pre>	[Marks-5]	CLO-1 Level-2
	b)	Observe any errors in the following code and rewrite it with the necessary modifications. (i) <pre>#include <stdio.h> int main() { int x = 5; float y = 3.14; y = x * y; printf("Multiplication: %.2f\n", y); return 0; }</pre> (ii) <pre>#include <stdio.h> int main() { int a = 3; a--; printf("%.2d\n", result); return 0; }</pre>	[Marks-5]	CLO-1 Level-2
2.	a)	Suppose you are tasked with developing a feedback system for a school based on the student's grades. The system will provide feedback for each grade (A-D) as follows: A: Excellent work! B: Good job!	[Marks-5]	CLO-2 Level-3

	C: You passed, but there's room for improvement. D: You need to work harder. Construct a C program based on the above scenario using a switch-case statement.													
✱	One of your friends goes Eid shopping and receives money from his father, mother, and brother. He plans to buy clothes and can pay either in cash or through mobile banking. If he chooses cash payment, he pays the full amount with no discount. However, if he pays using mobile banking, he gets a 15% discount on his total purchase. Code a C program that takes input for the amount received from the father, mother, and brother, the purchase amount, and the payment method (1 for Mobile Banking, 0 for Cash). The program should calculate and display the total money available, the final amount after applying the discount (if any), and the remaining money after shopping. <table><tr><th>Sample Input</th><th>Sample Output</th></tr><tr><td>Enter money from father: 2500</td><td>Total Money Avail of able: 4000</td></tr><tr><td>Enter money from mother: 1000</td><td>Final Purchase Amount After 15% Discount: 2550</td></tr><tr><td>Enter money from brother: 500</td><td>Remaining Money: 1450</td></tr><tr><td>Enter purchase amount: 3000</td><td></td></tr><tr><td>Enter payment method (1 for Mobile Banking, 0 for Cash): 1</td><td></td></tr></table>	Sample Input	Sample Output	Enter money from father: 2500	Total Money Avail of able: 4000	Enter money from mother: 1000	Final Purchase Amount After 15% Discount: 2550	Enter money from brother: 500	Remaining Money: 1450	Enter purchase amount: 3000		Enter payment method (1 for Mobile Banking, 0 for Cash): 1		[Marks-5]
Sample Input	Sample Output													
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c)	A person is planning to go abroad for higher studies and needs to save money for travel expenses. He decides to save a fixed amount every month and wants to track his savings over time. Given the starting balance (initial savings), the monthly savings amount, and the number of months, <table><tr><th>Sample Input</th><th>Sample Output</th></tr><tr><td>Enter starting balance: 1000</td><td>Month 1: Total Savings = 1300</td></tr><tr><td>Enter monthly savings amount: 300</td><td>Month 2: Total Savings = 1600</td></tr><tr><td>Enter the number of months: 4</td><td>Month 3: Total Savings = 1900</td></tr><tr><td></td><td>Month 4: Total Savings = 2200</td></tr></table> Build a C program to calculate and print the total savings at the end of each month using a for loop.	Sample Input	Sample Output	Enter starting balance: 1000	Month 1: Total Savings = 1300	Enter monthly savings amount: 300	Month 2: Total Savings = 1600	Enter the number of months: 4	Month 3: Total Savings = 1900		Month 4: Total Savings = 2200	[Marks-5]		
Sample Input	Sample Output													
Enter starting balance: 1000	Month 1: Total Savings = 1300													
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