Q1. Write a C program that: 1. Dynamically allocates an array of size n using malloc(). 2. Takes n integer inputs from the user. 3. Inserts a new element at a given position pos (1-based index). 4. Shifts the existing elements to the right. 5. Displays the updated array.

Input Example: Enter number of elements: 5 Enter elements: 10 20 30 40 50 Enter element to insert: 25 Enter position to insert: 3

Output Example: Array after insertion: 10 20 25 30 40 50

Q2. Write a C program that: 1. Dynamically allocates memory for n integers using malloc(). 2. Takes array input from the user. 3. Counts and displays the frequency of each unique element in the array.

Input Example: Enter number of elements: 6 Enter elements: 2 3 2 5 3 3

Output Example: Element 2 appears 2 times Element 3 appears 3 times Element 5 appears 1 time

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Q3. Write a C program that: 1. Dynamically allocates memory for n integers using malloc(). 2. Accepts elements from the user. 3. Separates all even and odd elements into two new dynamically allocated arrays. 4. Prints the even and odd arrays separately.

Input Example: Enter number of elements: 6 Enter elements: 1 2 3 4 5 6

Output Example: Even elements: 2 4 6 Odd elements: 1 3 5