**AIM:**

**To implement a program to create, read, and display an array of integers using dynamic memory allocation (malloc/calloc) in C. Allow the user to specify the size of the array at runtime.**

**PROGRAM:**

#include <stdio.h>

#include <stdlib.h>

int main() {

int \*arr;

int n, i;

// Ask user for array size

printf("Enter the number of elements: ");

scanf("%d", &n);

// Dynamically allocate memory using malloc

arr = (int \*)malloc(n \* sizeof(int));//You can also use calloc()---🡪arr = (int \*)calloc(n, sizeof(int));

// Check if memory allocation was successful

if (arr == NULL) {

printf("Memory allocation failed.\n");

return 1;

}

// Read elements into the array

printf("Enter %d integers:\n", n);

for (i = 0; i< n; i++) {

printf("Element %d: ", i + 1);

scanf("%d", &arr[i]);

}

// Display the array

printf("\nThe entered array is:\n");

for (i = 0; i< n; i++) {

printf("%d ", arr[i]);

}

// Free the allocated memory

free(arr);

return 0;

}

**RESULT:**

Thus the program to create, read, and display an array of integers using dynamic memory allocation (malloc/calloc) in C was executed that allow the user to specify the size of the array at runtime.

**Sample Input and Output**

