**Group- OYO, Rhona, Lynnet**

**Question--Write an algorithm to add two numbers entered by a user.**

Algorithm to add two numbers entered by the user

1. Start
2. Initiate variables; X, Y and SUM
3. Prompt the user to enter the first number, X
4. Read the first number and store it in variable X
5. Prompt the user to enter the second number Y
6. Read the second number and store it in variable Y
7. Add the two numbers and store it in SUM; SUM=X+Y
8. Display SUM of the two numbers
9. End.

**Question---Write an algorithm and pseudo code of calculating the sum of n elements of an array**.

**Algorithm**

1. Start
2. Initialize n, i, SUM=0
3. Prompt the user to enter the value of n
4. Read the number entered store it in the variable n
5. Declare and array of size n
6. Iterate through the first n elements of the array
7. Add each element to sum
8. Display the value of sum
9. End

**Pseudocode**

1. Start
2. PRINT “enter the number of elements n”
3. READ n, i,
4. Declare array[n]
5. Declare SUM=0
6. PRINT “enter”, n, ”elements”
7. FOR i=0 to n-1:
   1. READ array[i]
   2. SUM=SUM + array[i]
8. End FOR
9. PRINT “Sum of array of elements”, SUM
10. End

**Question--Write a c code that shows how to insert an element entered by the user into the middle of the array.**

#include <stdio.h>

int main() {

int array[100];

int n, i, newElement, position;

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

scanf("%d", &n);

printf("Enter the elements of the array:\n");

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

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

}

printf("Enter the new element to insert: ");

scanf("%d", &newElement);

position = n / 2;

for (i = n; i > position; i--) {

array[i] = array[i - 1];

}

array[position] = newElement;

n++;

printf("Array after inserting the new element:\n");

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

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

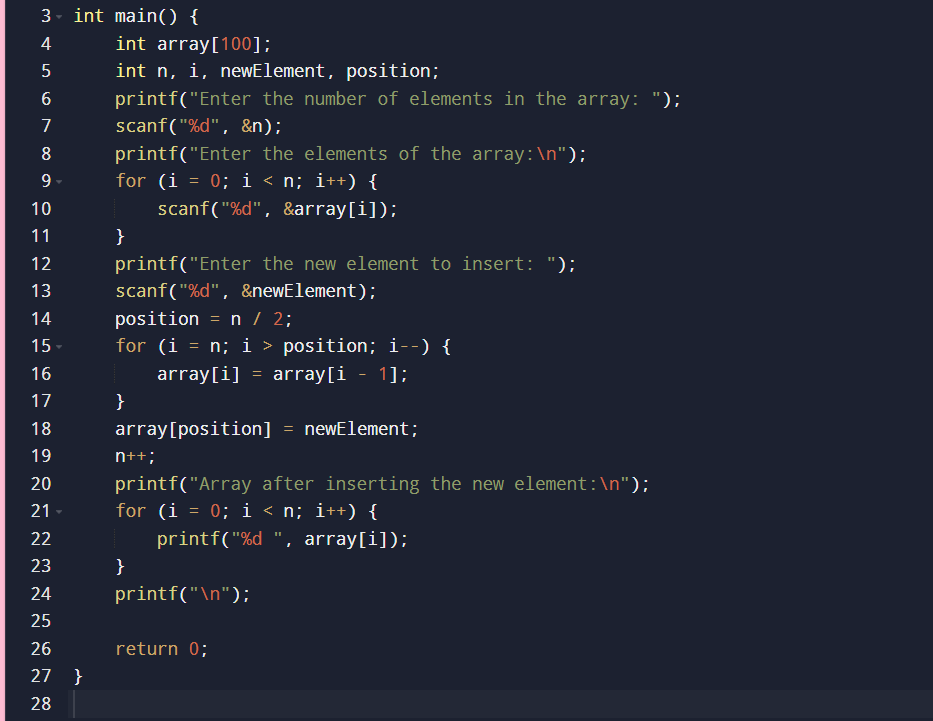
}

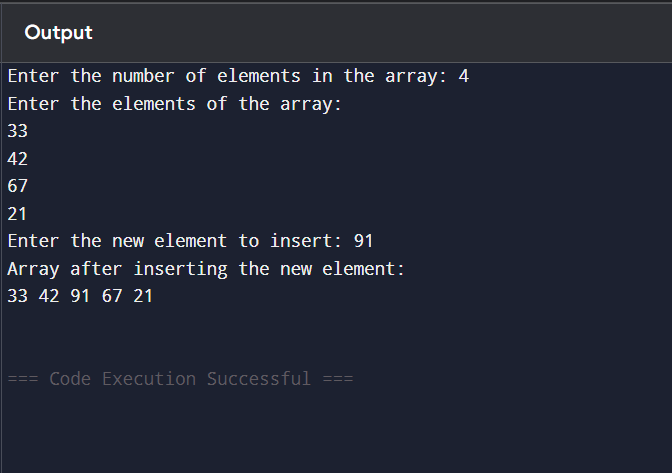
printf("\n");

return 0;

}

**Screenshot of output**

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**OUTPUT**