



SIMATS
ENGINEERING



SIMATS
Saveetha Institute of Medical And Technical Sciences
(Declared as Deemed to be University under Section 3 of UGC Act 1956)

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COURSE NAME : DATA STRUCTURES FOR MODERN COMPUTING SYSTEMS

COURSE CODE : CSA0302

10. WRITE A C PROGRAM TO PERFORM INSERT AN ELEMENT IN AN ARRAY

C PROGRAMMING CODE:

```
#include <stdio.h>

int main() {
    int arr[100], n, pos, val, i;

    printf("Enter number of elements: ");
    scanf("%d", &n);

    printf("Enter %d elements: ", n);
    for (i = 0; i < n; i++)
        scanf("%d", &arr[i]);

    printf("Enter position to insert (1-%d): ", n + 1);
    scanf("%d", &pos);

    printf("Enter value to insert: ");
    scanf("%d", &val);

    for (i = n; i >= pos; i--)
        arr[i] = arr[i - 1]; // shift elements right

    arr[pos - 1] = val; // insert element
    n++;
}
```

```

printf("Array after insertion: ");
for (i = 0; i < n; i++)
printf("%d ", arr[i]);

return 0;
}

```

OUTPUT:

main.c	Output
<pre> 1 #include <stdio.h> 2 int main() { 3 int arr[100], n, pos, val, i; 4 5 printf("Enter number of elements: "); 6 scanf("%d", &n); 7 printf("Enter %d elements: ", n); 8 for (i = 0; i < n; i++) 9 scanf("%d", &arr[i]); 10 printf("Enter position to insert (1-%d): ", n + 1); 11 scanf("%d", &pos); 12 printf("Enter value to insert: "); 13 scanf("%d", &val); 14 for (i = n; i >= pos; i--) 15 arr[i] = arr[i - 1]; // shift elements right 16 17 arr[pos - 1] = val; // insert element 18 n++; 19 printf("Array after insertion: "); 20 for (i = 0; i < n; i++) 21 printf("%d ", arr[i]); 22 23 return 0; 24 } 25 </pre>	<pre> Enter number of elements: 4 Enter 4 elements: 10 20 30 40 Enter position to insert (1-5): 3 Enter value to insert: 25 Array after insertion: 10 20 25 30 40 === Code Execution Successful === </pre>