

(Binary Search)

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Practical No. 4

Aim: Write a C++ program to verify whether a given element belongs to a sorted array using the binary search technique.

```
code: #include <iostream.h>
#include <conio.h>
void main()
{
    clrscr();
    int arr[10] = {5, 10, 15, 20, 25, 30, 35, 40, 45, 50};
    int low = 0, high = 9, mid, num, found = 0;
    cout << "Enter number to search:";
    cin >> num;
    while (low <= high)
    {
        mid = (low + high) / 2;
        if (arr[mid] == num)
        {
            found = 1;
            break;
        }
        else if (num < arr[mid])
        {
            high = mid - 1;
        }
        else
        {

```

```
low = mid + 1;
```

```
}
```

```
}
```

```
If (found == 1)
```

```
{
```

```
cout << "The number " << num << " is FOUND in  
the array.";
```

```
}
```

```
else
```

```
{
```

```
cout << "The number " << num << " is NOT FOUND in  
the array.";
```

```
}
```

```
Getch();
```

```
}
```

