-: Practical Set – 10 :-

1. Write a Python program to search a specific value from a given list of values using binary search method.

```
def binary_search(values, search_value):
    left = 0
    right = len(values) - 1
    while left <= right:
        mid = (left + right) // 2
        if values[mid] == search_value:
            return mid
        elif values[mid] < search_value:
            left = mid + 1
        else:
            right = mid - 1
    return -1

values = [0, 1, 1, 3, 5, 7, 9, 13, 15, 18, 20]
search_value = 5
index = binary_search(values, search_value)
if index == -1:
    print(f"{search_value} not found in the list")
else:
    print(f"{search_value} found at index {index}")
```

OUTPUT :

```
5 found at index 4
```

2. Write a python program to sort the elements of list values using selection sort.

```
def selection_sort(values):
    for i in range(len(values)):
        min_index = i
        for j in range(i+1, len(values)):
            if values[j] < values[min_index]:
                min_index = j
        values[i], values[min_index] = values[min_index], values[i]
    return values

values = [9, 4, 7, 2, 8, 5, 1, 6, 3, 0, 1]
sorted_values = selection_sort(values)
print(sorted_values)
```

OUTPUT :

```
[0, 1, 1, 2, 3, 4, 5, 6, 7, 8, 9]
```