LAB PRACTICALS (JAN-JUN, 2025)

S. No.	WEEK No.	NAME OF PRACTICAL	Date	Signature
1.	WEEK 1			
2.	WEEK 2			
3.	WEEK 3			
4.	WEEK 4			
5.	WEEK 5			
6.	WEEK 6			
7.	WEEK 7			
8.	WEEK 8			
9.	WEEK 9			
10.	WEEK 10			
11.	WEEK 11			
12.	WEEK 12			
13.	WEEK 13			
14.	WEEK 14			

LAB 01

TASK 01:

BUBBLE SORT

```
CODE:
#include <bits/stdc++.h>
using namespace std;
void bubblesort(int arr[], int n){
  int count=0;
  for(int i=0;i< n-1;i++){
    bool swapped = false;
    for(int j=0; j< n-i-1; j++){
       if(arr[j] > arr[j+1]){
         swap(arr[j],arr[j+1]);
         swapped = true;
       }
       count++;
    if(!swapped){break;}
  cout<<count<<endl;</pre>
}
void print(int arr[],int n){
  for(int i=0; i< n; i++){
    cout<<arr[i]<<" ";
  cout << endl;
int main(){
  int arr[7] = \{7,6,5,4,3,2,1\};
  int n = 7;
  print(arr,n);
  bubblesort(arr,n);
  print(arr,n);
OUTPUT:
  PS C:\Users\Ritik gupta\Desktop\Lab\DAA\Lab 1> cd "c:\Users\Ritik gupta"
   }
  7 6 5 4 3 2 1
  1 2 3 4 5 6 7
  PS C:\Users\Ritik gupta\Desktop\Lab\DAA\Lab 1>
```

SELECTION SORT:

```
#include <bits/stdc++.h>
using namespace std;
void selectionsort(int arr[], int n){
  int count =0;
  for(int i = 0; i < n-1; i++)
     int min_idx = i;
     for(int j = i+1; j < n; j++){
       if(arr[j] < arr[min_idx]){</pre>
          min_idx = j;
       count++;
     swap(arr[min idx],arr[i]);
  cout << count << endl;
void print(int arr[],int n){
  for(int i=0; i< n; i++){
     cout<<arr[i]<<" ";
  cout << endl;
}
int main(){
  int arr[5] = \{3,8,2,5,1\};
  int n = 5;
  print(arr,n);
  selectionsort(arr,n);
  print(arr,n);
 PS C:\Users\Ritik gupta\Desktop\Lab\DAA\Lab 1> cd "c:\Users\Ritik gupta\Desktop\
 3 8 2 5 1
 PS C:\Users\Ritik gupta\Desktop\Lab\DAA\Lab 1>
```

Time Complexities:

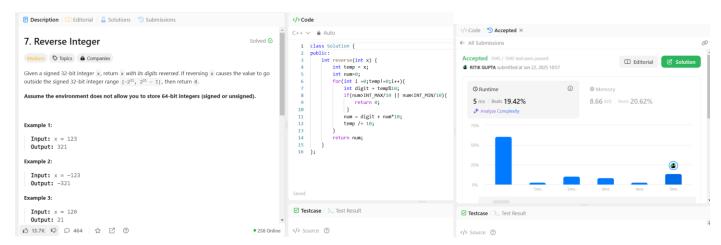
	Bubble sort	Selection sort
Best case	n.(n-1)/2	n.(n-1)/2
Worst case	n-1	n.(n-1)/2

TASK-02:

1.Add two numbers



2. Reverse integer



3. Dutch flag

