

Assignment 4

```
1. int arr[5]={2,8,18,34,5};
for (int i=0;i<5;i++){
    cout<<i[arr]<<" ";
}
```

Will this code show an error or not? Why?

```
2. int arr[5]={2,8,18,34,5};
char ch[6]="abcde";
cout<<arr<<endl;
cout<<ch;
```

What output will you get in each line(address is printed or something else)? Why so?

3. Write a function to check if a linked list is a palindrome.

4. Given a linked list, write a function to rotate the list to the right by k places, where k is non-negative. **Example:**

○ **Input:** 1 -> 2 -> 3 -> 4 -> 5, $k = 2$

○ **Output:** 4 -> 5 -> 1 -> 2 -> 3

5. Given a string S , find its lexicographically smallest rotation. A rotation of a string is obtained by moving its characters some number of steps to the left or right. For example, the rotations of the string "cbabde" are: "babdec", "abdecb", "bdecba", "decbab", "ecbabd" and "cbabde". lexicographically smallest rotation is "abdecb".

6. Develop an algorithm to determine if two trees $T1$ and $T2$ are isomorphic, i.e., they have the same structure disregarding node labels. Consider optimizations to handle large trees efficiently. **Example:**

• Tree 1: 1 Tree 2: 10 It's isomorphic.
 /
 2 3 9 6
 /
 4 5 6 2 1 7

• Tree 1: 1 Tree 2: 1 It's not isomorphic
 /
 2 3 2 3
 /
 4 5 5 4

• Tree 1: 1 Tree 2: 1 It's not isomorphic.
 /
 2 3 2 3
 /
 4 5 4 5