S.No: 12	Exp. Name: ***Write a C program to Create a Singly Linked List***	Date:2023-04-28

Aim:

The `addNodes()` function creates a new list and adds elements to the list until delimiter `-1` is occurred.

Fill in the missing code in the below functions `addNodes(NODE first, int x)` and `traverseList(NODE first)` in the file `CreateAndAddNodes.c`.

Source Code:

SingleLL1.c

```
#include<stdio.h>
#include<stdlib.h>

#include "CreateAndAddNodes.c"

void main() {
   NODE first = NULL;
   int x;
   printf("Enter elements up to -1 : ");
   scanf("%d", &x);
   while (x != -1) {
      first = addNodes(first, x);
      scanf("%d", &x);
 }
   if (first == NULL) {
      printf("Single Linked List is empty\n");
 }   else {
      printf("The elements in SLL are : ");
      traverseList(first);
 }
}
```

CreateAndAddNodes.c

```
struct node {
   int data;
   struct node *next;
};
typedef struct node *NODE;

NODE createNode() {
   NODE temp;
   temp = (NODE)malloc(sizeof (struct node));
   temp->next = NULL;
   return temp;

}
NODE first = NULL;
NODE addNodes(NODE first, int x) {
NODE temp;
temp = createNode();
```

```
temp->data = x;
if(first == NULL)
{
   first = temp;
}
else
{
   NODE lastNode = first;
   while(lastNode->next!=NULL)
   {
      lastNode=lastNode->next;
 }
   lastNode->next=temp;
}
return first;
}
void traverseList(NODE first) {
   if(first == NULL)
   {
      printf("List is Empty");
 }
   else{
      NODE temp=first;
      while(temp!=NULL)
      {
         printf("%d --> ",temp->data);
         temp=temp->next;
  }
      printf("NULL\n");
 }

}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter elements up to -1 : 9 18 27 36 45 -1
The elements in SLL are : 9 --> 18 --> 27 --> 36 --> 45 --> NULL

Test Case - 2
User Output
Enter elements up to -1 : 12 14 19 23 -1
The elements in SLL are : 12 --> 14 --> 19 --> 23 --> NULL