

Logic Building Assignment : 42

Consider below code snippet to solve given problem statements.

```
#define TRUE 1
#define FALSE 0

typedef int BOOL;

struct node
{
    int Data;
    node *Next;
};

typedef struct node NODE;
typedef struct node* PNODE;
typedef struct node** PPNODE;

void InsertFirst(PPNODE Head , int no )
{
    PNODE newn = NULL;

    newn = (PNODE)malloc(sizeof(NODE));

    newn->Next = NULL;
    newn->Data = no;

    if (*Head == NULL)
    {
        *Head = newn;
    }
    else
    {
        newn -> Next = *Head;
        *Head = newn;
    }
}

int main()
{
    PNODE First = NULL;

    InsertFirst(&First, 101);
    InsertFirst(&First, 51);
    InsertFirst(&First, 21);
    InsertFirst(&First, 11);

    // Call all functions for below problem statements.
```

```
    return 0;  
}
```

1. Write a program which search first occurrence of particular element from singly linear linked list.

Function should return position at which element is found.

Function Prototype :

```
int SearchFirstOcc( PNODE Head , int no );
```

Input linked list : |10|->|20|->|30|->|40|->|50|->|30|->|70|

Input element : 30

Output : 3

2. Write a program which search last occurrence of particular element from singly linear linked list.

Function should return position at which element is found.

Function Prototype :

```
int SearchLastOcc( PNODE Head, int no );
```

Input linked list : |10|->|20|->|30|->|40|->|50|->|30|->|70|

Input element : 30

Output : 6

3. Write a program which returns addition of all element from singly linear linked list.

Function Prototype :

```
int Addition( PNODE Head);
```

Input linked list : |10|->|20|->|30|->|40|

Output : 100

4. Write a program which return largest element from singly linear linked list.

Function Prototype :

```
int Maximum( PNODE Head);
```

Input linked list : |110|->|230|->|320|->|240|

Output : 320

5. Write a program which return smallest element from singly linear linked list.

Function Prototype :

```
int Minimum( PNODE Head);
```

Input linked list : |110|->|230|->|20|->|240|->|640|

Output : 20

