

Logic Building Assignment : 43

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 displays all elements which are perfect from singly linear linked list.

Function Prototype :

```
int DisplayPerfect( PNODE Head);
```

Input linked list : |11|->|28|->|17|->|41|->|6|->|89|

Output : 6 28

2. Write a program which displays all elements which are prime from singly linear linked list.

Function Prototype :

```
int DisplayPrime( PNODE Head);
```

Input linked list : |11|->|20|->|17|->|41|->|22|->|89|

Output : 11 17 41 89

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

Function Prototype :

```
int AdditionEven( PNODE Head);
```

Input linked list : |11|->|20|->|32|->|41|

Output : 52

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

Function Prototype :

```
int SecMaximum( PNODE Head);
```

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

Output : 240

5. Write a program which display addition of digits of element from singly linear linked list.Function Prototype :

```
int SumDigit( PNODE Head);
```

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

Output : 2 5 2 6 10

