Logic Building Assignment : 15

1. Accept N numbers from user and accept one another number as NO , check whether NO is present or not.

Input : N : 6

NO: 66

Elements : 85 66 3 66 93 88

Output : TRUE

Input : N : 6

NO: 12

Elements : 85 11 3 15 11 111

Output : FALSE

Program Layout :

```
#include<stdio.h>

#define TRUE 1
#define FALSE 0

typedef int BOOL;

BOOL Check(int Arr[], int iLength, int iNo)
{
	// Logic
}

int main()
{
	int iSize = 0,iRet = 0,iCnt = 0, iValue = 0;
	int *p = NULL;
	BOOL bRet = FALSE;

	printf("Enter number of elements");
	scanf("%d",&iSize);
```

```
    printf("Enter the number");
    scanf("%d",&iValue);

    p = (int *)malloc(iSize * sizeof(int));

    if(p == NULL)
    {
        printf("Unable to allocate memory");
        return -1;
    }

    printf("Enter %d elements ",iLength);

    for(iCnt = 0;iCnt<iLength; iCnt++)
    {
        printf("Enter element : %d",iCnt+1);
        scanf("%d",&p[iCnt]);
    }

    bRet = Check(p, iSize,iValue);

    if(bRet == TRUE)
    {
        printf("Number is present");
    }
    else
    {
        printf("Number is not present");
    }

    free(p);

    return 0;
}
```

2. Accept N numbers from user and accept one another number as NO , return index of first occurrence of that NO.

Input : N : 6

NO: 66

Elements : 85 66 3 66 93 88

Output : 1

Input : N : 6

NO: 12

Elements : 85 11 3 15 11 111

Output : -1

Program Layout :

```
#include<stdio.h>

int FirstOcc(int Arr[], int iLength, int iNo)
{
	// Logic
}

int main()
{
	int iSize = 0,iRet = 0,iCnt = 0, iValue = 0,iRet = 0;
	int *p = NULL;

	printf("Enter number of elements");
	scanf("%d",&iSize);

	printf("Enter the number");
	scanf("%d",&iValue);

	p = (int *)malloc(iSize * sizeof(int));

	if(p == NULL)
	{
		printf("Unable to allocate memory");
		return -1;
	}

	printf("Enter %d elements ",iLength);

	for(iCnt = 0;iCnt<iLength; iCnt++)
	{
		printf("Enter element : %d",iCnt+1);
		scanf("%d",&p[iCnt]);
	}

	iRet = FirstOcc(p, iSize,iValue);

	if(iRet == -1)
```

```
    {
        printf("There is no such number");
    }
    else
    {
        printf("First occurrence of number is %d",iRet);
    }

    free(p);

    return 0;
}
```

3. Accept N numbers from user and accept one another number as NO , return index of last occurrence of that NO.

Input : N : 6
NO: 66
Elements : 85 66 3 66 93 88

Output : 3

Input : N : 6
NO: 93
Elements : 85 66 3 66 93 88

Output : 4

Input : N : 6
NO: 12
Elements : 85 11 3 15 11 111

Output : -1

Program Layout :

```c
#include<stdio.h>

int LastOcc(int Arr[], int iLength, int iNo)
{
	// Logic
}

int main()
{
	int iSize = 0,iRet = 0,iCnt = 0, iValue = 0,iRet = 0;
	int *p = NULL;

	printf("Enter number of elements");
	scanf("%d",&iSize);

	printf("Enter the number");
	scanf("%d",&iValue);

	p = (int *)malloc(iSize * sizeof(int));

	if(p == NULL)
	{
		printf("Unable to allocate memory");
		return -1;
	}

	printf("Enter %d elements ",iLength);

	for(iCnt = 0;iCnt<iLength; iCnt++)
	{
		printf("Enter element : %d",iCnt+1);
		scanf("%d",&p[iCnt]);
	}

	iRet = LastOcc(p, iSize,iValue);

	if(iRet == -1)
	{
		printf("There is no such number");
	}
	else
	{
		printf("Last occurrence of number is %d",iRet);
	}
```

```
    free(p);

    return 0;
}
```

4. Accept N numbers from user and accept Range, Display all elements from that range

```
Input :    N :          6
           Start:       60
           End :        90
           Elements :85   66   3    76   93   88
Output :   66   76   88
Input :    N :          6
           Start:       30
           End :        50
           Elements :85   66   3    76   93   88
Output :
```

Program Layout :

```
#include<stdio.h>

void Range(int Arr[], int iLength, int iStart, int iEnd)
{
    // Logic
}

int main()
{
    int iSize = 0,iRet = 0,iCnt = 0, iValue1 = 0,iValue1 = 0;
    int *p = NULL;

    printf("Enter number of elements");
    scanf("%d",&iSize);

    printf("Enter the starting point");
```

```
        scanf("%d",&iValue1);

        printf("Enter the ending point");
        scanf("%d",&iValue2);

        p = (int *)malloc(iSize * sizeof(int));

        if(p == NULL)
        {
                printf("Unable to allocate memory");
                return -1;
        }

        printf("Enter %d elements ",iLength);

        for(iCnt = 0;iCnt<iLength; iCnt++)
        {
                printf("Enter element : %d",iCnt+1);
                scanf("%d",&p[iCnt]);
        }

        iRet = Range(p, iSize,iValue1, iValue2);

        free(p);

        return 0;
}
```

5. Accept N numbers from user and return product of all odd elements.

Input : N : 6

Elements : 15 66 3 70 10 88

Output : 45

Input : N : 6

Elements : 44 66 72 70 10 88

Output : 0

Program Layout :

```c
#include<stdio.h>
int Product(int Arr[], int iLength)
{
	// Logic
}

int main()
{
	int iSize = 0,iRet = 0,iCnt = 0,iRet = 0;
	int *p = NULL;

	printf("Enter number of elements");
	scanf("%d",&iSize);

	p = (int *)malloc(iSize * sizeof(int));

	if(p == NULL)
	{
		printf("Unable to allocate memory");
		return -1;
	}

	printf("Enter %d elements ",iLength);

	for(iCnt = 0;iCnt<iLength; iCnt++)
	{
		printf("Enter element : %d",iCnt+1);
		scanf("%d",&p[iCnt]);
	}

	iRet = Product(p, iSize);

	printf("Product is %d",iRet);

	free(p);

	return 0;
}
```