

Logic Building Assignment : 23

Create separate visual Studio project for each problem statement separately.

1. Accept N numbers from user and return the largest number.

Input : N : 6

Elements : 85 66 3 66 93 88

Output : 93

Program Layout :

```
#include<stdio.h>

#define TRUE 1
#define FALSE 0

typedef int BOOL;

int Maximum(int Arr[], int iLength)
{
    // 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 = Maximum(p, iSize);

printf("Largest Number is %d",iRet);

free(p);

return 0;
}
```

2. Accept N numbers from user and return the smallest number.

Input : N : 6
 Elements : 85 66 3 66 93 88

Output : 3

Program Layout :

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

```
#define TRUE 1
```

```
#define FALSE 0
```

```
typedef int BOOL;
```

```
int Minimum(int Arr[], int iLength)
```

```
{
    // 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 = Minimum(p, iSize);

printf("Smallest Number is %d",iRet);

free(p);

return 0;
}
```

3. Accept N numbers from user and return the difference between largest and smallest number.

Input : N : 6

 Elements : 85 66 3 66 93 88

Output : 90 (93 -3)

Program Layout :

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

```
#define TRUE 1
```

```
#define FALSE 0
```

```
typedef int BOOL;
```

```
int Difference(int Arr[], int iLength)
{
    // 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 = Difference(p, iSize);

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

    free(p);

    return 0;
}
```

4. Accept N numbers from user and display all such numbers which contains 3 digits in it.

Input : N : 6

Elements : 8225 665 3 76 953 858

Output : 665 953 858

Program Layout :

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

```
void Digits(int Arr[], int iLength)
```

```
{  
    // Logic  
}
```

```
int main()
```

```
{  
    int iSize = 0,iRet = 0,iCnt = 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]);  
    }  
  
    Digits(p, iSize);  
  
    free(p);  
  
    return 0;  
}
```

5. Accept N numbers from user and display summation of digits of each number.

Input : N : 6

Elements : 8225 665 3 76 953 858

Output : 17 17 3 13 17 21

Program Layout :

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

```
void DigitsSum(int Arr[], int iLength)
{
    // Logic
}
```

```
int main()
{
    int iSize = 0,iRet = 0,iCnt = 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]);
    }

    DigitsSum(p, iSize);

    free(p);

    return 0;
```

}

