```c
C > Assignment5 > C 1Dererencing.c > ...
  1    #include<stdio.h>
  2    void main()
  3    {
  4        int a=10,b=20;
  5        //accessing the date using variable
  6        printf("Value of a = %d\n",a);
  7        printf("Value of b = %d\n",b);
  8        //accessing the address of variable
  9        printf("Address of a = %d\n",&a);
 10        printf("Address of b = %d\n",&b);
 11        //accessing the date using de referencing operation
 12        printf("Address of a = %d\n",*&a);
 13        printf("Address of b = %d\n",*&b);
 14    }
 15    |
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL

```
Value of a = 10
Value of b = 20
Address of a = 6422300
Address of b = 6422296
Address of a = 10
Address of b = 20
```

```c
C > Assignment5 > C 2Add_Two_num.c > ...
  1   //program to add two numbers using pointers
  2   #include<stdio.h>
  3   void main()
  4   {
  5       int a=30, b=50,sum;
  6       int *pa,*pb;
  7       pa = &a;
  8       pb = &b;
  9       sum = *pa + *pb;
 10       printf("sum=%d",sum);
 11
 12   }
 13
 14
 15   |
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

PS G:\IIITnr\Assignments\IntroToProgm\C\Assignment5> cd "g:\III
dd_Two_num }
sum=80

```c
1   //to read and add two numbers using pointers
2   #include<stdio.h>
3   void main()
4   {
5       int a,b,sum;
6       int *pa, *pb;
7       pa=&a;
8       pb=&b;
9
10      scanf("%d %d",&a,&b);
11      sum = *pa + *pb;
12      printf("The sum of the two number is:%d",sum);
13  }
14
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**

```
    at Microsoft.PowerShell.PSConsoleReadLine.InputLoop()
    at Microsoft.PowerShell.PSConsoleReadLine.ReadLine(Runspace runspace, I
-------------------------------------------------------------------
PS G:\IIITnr\Assignments\IntroToProgm\C\Assignment> cd "g:\IIITnr\Assignme
 if ($?) { .\3Read_and_Add_Twonum }
5
4
The sum of the two number is:9
```

```c
#include<stdio.h>
void main()
{
    int x=10, y=20, z=30;
    int *p;
    p=&x;
    printf("%d\n",*p);
    p=&y;
    printf("%d\n",*p);
    p=&z;
    printf("%d\n",*p);
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL

implePrint }
10
20
30

```c
C > Assignment5 > C 6MaxMin_Num.c > ...
 1    //program to print both maximum and minimum of two numbers
 2    #include<stdio.h>
 3    void main()
 4    {
 5        int m,n,big,small;
 6        printf("Enter the two values: ");
 7        scanf("%d%d",&m,&n);
 8
 9        maxmin(m,n,&big,&small);
10        printf("Largest = %d",big);
11        printf("smallest = %d",small);
12
13    }
14    void maxmin(int a,int b,int *max,int *min)
15    {
16        if(a>b)
17        {
18            *max=a,*min=b;
19            return ;
20
21        }
22        *max=b,*min=a;
23    }
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL

```
    maxmin(m,n,&big,&small);
    ^~~~~~
Enter the two values: 4
5
Largest = 5smallest = 4
```

```c
1    //function returning pointers
2    #include<stdio.h>
3    void main()
4    {
5        int x,y,*big;
6        printf("Enter the values of x and y: ");
7        scanf("%d%d",&x,&y);
8
9        big = largest(&x,&y);
10       printf("Max(%d,%d) : %d",x,y,*big);
11
12
13   }
14   int largest(int*a,int*b)
15   {
16       if(*a>*b)
17       {
18           return  a ;
19
20       }
21       else
22           return b;
23   }
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**

```
        return b;
              ^
Enter the values of x and y: 5
8
Max(5,8) : 8
```

```c
1    #include <stdio.h>
2
3    int main ()
4    {
5
6      int  a=12;
7      int  *p;
8      int  **p1;
9      p=&a;
10     p1=&p;
11
12     printf("Value of a = %d\n", a );
13     printf("Value available at *p = %d\n", *p );
14     printf("Value available at **p1 = %d\n", **p1);
15
16     return 0;
17   }
```

```
; if ($?) { gcc 8PToP_Simple.c -o 8PToP_Simple } ; i
f ($?) { .\8PToP_Simple }
Value of a = 12
Value available at *p = 12
Value available at **p1 = 12
```

```c
C > Assignment5 > C 9Address_Values.c > ⊗ main()
1    #include<stdio.h>
2    void main()
3    {
4        int a[50]={10,20,30,40,50};
5        int i=3;
6        printf("%d,%d,%d,%d,%d,%d\n",*(&a[i]),a[i],*(a+i),*(i+a),i[a],*(&i[a]));
7        printf("%d,%d,%d,%d",(&a[i]),(a+i),(i+a),(&i[a]));
8    }
```

PS G:\IIITnr\Assignments\IntroToProgm\C\Assignment> cd "g:\IIITnr\Assignment
s\IntroToProgm\C\Assignment5\" ; if ($?) { gcc 9Address_Values.c -o 9Address
_Values } ; if ($?) { .\9Address_Values }
40,40,40,40,40,40
6422096,6422096,6422096,6422096

```c
1    //program to compute largest elemnt and its position
2    #include<stdio.h>
3    void main()
4    {
5        int a[10],n,i,big,pos;
6        printf("Enter the two Elements: ");
7        scanf("%d",&n);
8        printf("Enter the element");
9        for (i=0;i<n;i++)
10           scanf("%d",&a[i]);
11       big = a[0];
12       pos = 0;
13       for (i=0;i<n;i++)
14        if(big<a[i])
15        {
16            big = a[i];
17            pos = i;
18        }
19       printf("The Largest element is= %d",big);
20       printf("Its positon is %d",pos);
21
22   }
23   void maxmin(int a,int b,int *max,int *min)
24   {
25       if(a>b)
26       {
27           *max=a,*min=b;
28           return ;
29
30       }
31       *max=b,*min=a;
32   }
33
34
35
```

```c
1   //program to compute largest elemnt and its position
2   //using pointers
3   #include<stdio.h>
4   void main()
5   {
6       int a[10],n,i,big,pos;
7       printf("Enter the two Elements: ");
8       scanf("%d",&n);
9       printf("Enter the element: ");
10      for (i=0;i<n;i++)
11          scanf("%d",a+i);
12      big = *(a+0);
13      pos = 0;
14      for (i=1;i<n;i++)
15       if(big<*(a+i))
16       {
17           big = *(a+i);
18           pos = i;
19       }
20      printf("The Largest element is= %d\n",big);
21      printf("Its positon is %d",pos);
22
23  }
24
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL

```
Try the new cross-platform PowerShell https://aka.ms/
PS G:\IIITnr\Assignments\IntroToProgm\C> cd "g:\IIITnr\Assignments\IntroToProg
} ; if ($?) { .\11Largest_position_pointers }
Enter the two Elements: 5
Enter the element: 1
8
7
9
5
The Largest element is= 9
Its positon is 3
```

```c
//program to display array elements using pointers
#include<stdio.h>
void main()
{
    int a[]={10,20,30,40,50};
    int *p;
    int i;
    p=a;
    for(i=0;i<=4;i++)
    {
        printf("%d\n",*p);
        p++;
    }
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL

PS G:\IIITnr\Assignments\IntroToProgm\C\Assignment5>

PS G:\IIITnr\Assignments\IntroToProgm\C\Assignment5> cd "g:\IIITnr\Assignments\In
) { .\12Array_pointers }
10
20
30
40
50

```c
//sum of array using pointers
#include<stdio.h>
void main()
{
    int a[]={10,20,30,40,50};
    int *p;
    int i,sum;
    p=a;
    sum=0;
    for(i=0;i<=4;i++)
    {
        sum=sum+*p;
        p++;
    }
    printf("The sum is %d",sum);
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**

The sum is 150

```c
//print inverse
#include<stdio.h>
void main()
{
    int a[]={10,20,30,40,50};
    int *p;
    int i;
    p=&a[4];
    for(i=0;i<=4;i++)
    {
        printf("%d\n",*p);
        p--;
    }
}
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**

```
PS G:\IIITnr\Assignments\IntroToProgm\C\Assignment5> cd
irst_elem } ; if ($?) { .\14Display_lasttofirst_elem }
50
40
30
20
10
```

```c
1    //comparing the pointers array
2    #include<stdio.h>
3    void main()
4    {
5        int a[]={10,20,30,40,50};
6        int *p,*q;
7        p=&a[0];
8        p=&a[4];
9        while(p<=q)
10       {
11           printf("%d,",*p);
12           p++;
13       }
14   }
```

```c
C > Assignment5 > C 16Malloc.c > ...
   1    #include<stdio.h>
   2    #include<stdlib.h>
   3    void main()
   4    {
   5        int n,i,*p;
   6        printf("Enter the no of Elements: ");
   7        scanf("%d",&n);
   8        printf("Enter the element: ");
   9        p=(int*)malloc(n* sizeof(int));
  10        if(p==NULL)
  11        {
  12            printf("Insufficient memory");
  13            return;
  14        }
  15        printf("Enter %d elements",n);
  16        for (i=0;i<n;i++)
  17            scanf("%d",p+i);
  18        printf("The elements are");
  19        for (i=0;i<n;i++)
  20        printf("%d",*(p+i));
  21
  22    }
  23
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**

> cd "g:\IIITnr\Assignme

Enter the no of Elements: 5
Enter the element: Enter 5 elements4
8
2
6
7
The elements are48267

```c
 1  #include<stdio.h>
 2  #include<stdlib.h>
 3  void main()
 4  {
 5      int j,n,i,*p;
 6      printf("Enter the no of Elements: ");
 7      scanf("%d",&n);
 8      printf("Enter the element: ");
 9      p=(int*)calloc(n,sizeof(int));
10      if(p==NULL)
11      {
12          printf("Insufficient memory");
13          return;
14      }
15      printf("Enter %d elements",n);
16      for (i=0;i<n;i++)
17          scanf("%d",&p[i]);
18      j=0;
19      for (i=0;i<n;i++)
20       if(p[j]<p[i])
21       j=i;
22      printf("The biggest element is%d at position %d",p[j],j+1);
23      free(p);
24  }
25
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   **TERMINAL**

```
7
The elements are48267
PS G:\IIITnr\Assignments\IntroToProgm\C\Assignment5> cd "g:\IIITnr\Assignm

Enter the no of Elements: 5
Enter the element: Enter 5 elements9
4
7
3
6
The biggest element is9 at position 1
```