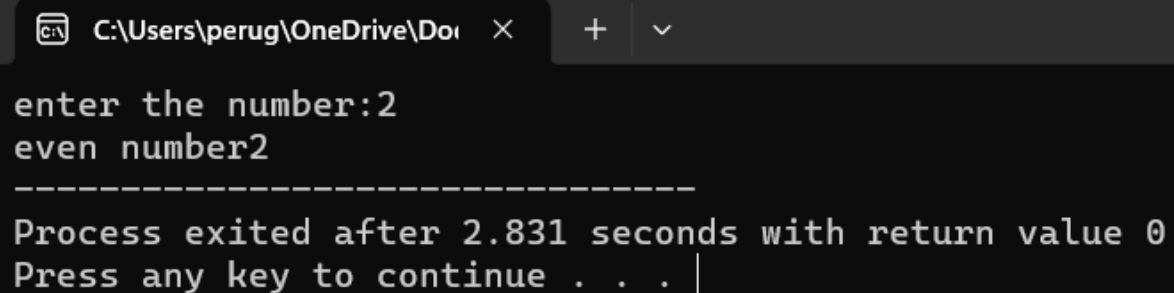


# Data structure day -1

1.write c program find check whether even or odd?

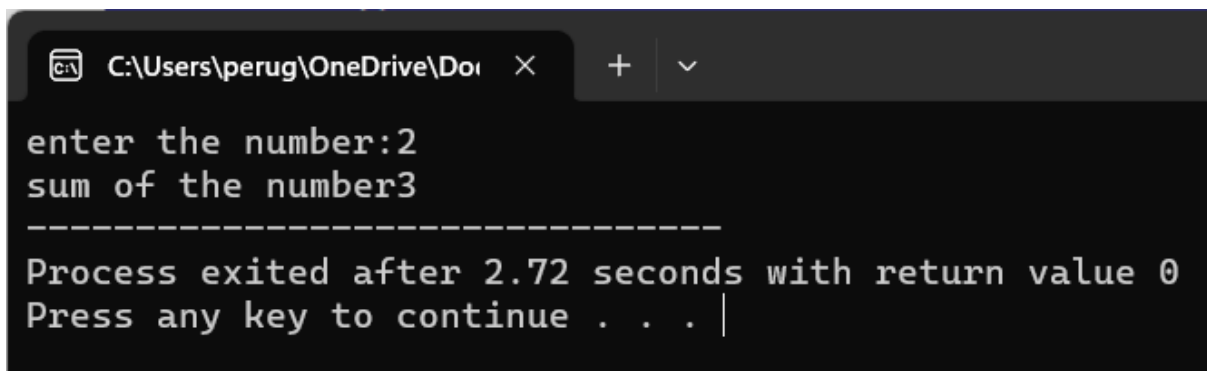
```
#include<stdio.h>
int main()
{
    int n;
    printf("enter the number:");
    scanf("%d",&n);
    if(n%2==0)
    {
        printf("even number%d",n);
    }
    else
    {
        printf("odd number %d",n);
    }
    return 0;
}
```



```
C:\Users\perug\OneDrive\Doi  X  +  v
enter the number:2
even number2
-----
Process exited after 2.831 seconds with return value 0
Press any key to continue . . . |
```

## 2.write c program find sum of n number?

```
#include<stdio.h>
int main()
{
    int n,i,sum=0;
    printf("enter the number:");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        sum+=i;
    }
    printf("sum of the number%d",sum);
    return 0;
}
```



```
C:\Users\perug\OneDrive\Doi
enter the number:2
sum of the number3
-----
Process exited after 2.72 seconds with return value 0
Press any key to continue . . . |
```

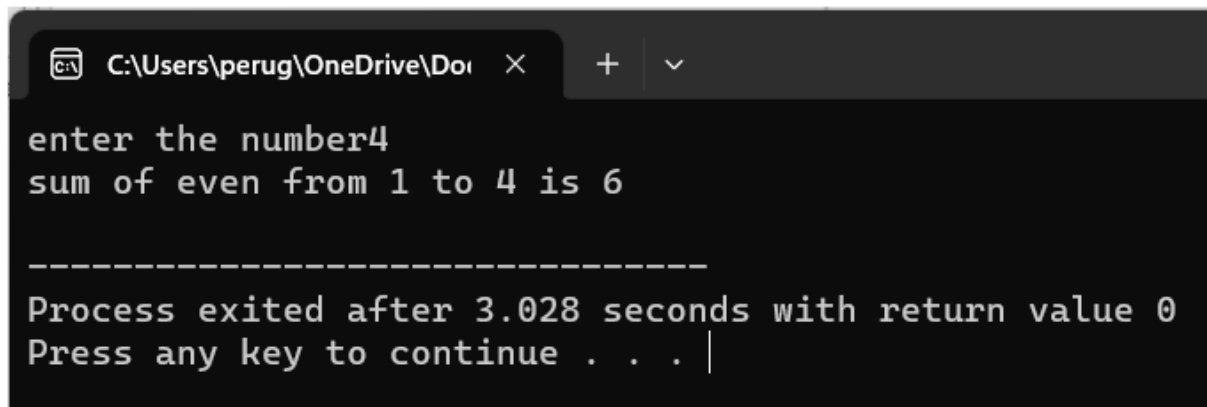
## 3.write c program find the sum of the even ?

```
#include<stdio.h>
int main()
{
```

```

int sum=0,i=1,n;
printf("enter the number");
scanf("%d",&n);
while(i<=n)
{
    if(i%2==0)
    {
        sum=sum+i;
    }
    i++;
}
printf("sum of even from 1 to %d is %d\n",n,sum);
return 0;
}

```



```

C:\Users\perug\OneDrive\Doi x + v
enter the number4
sum of even from 1 to 4 is 6

-----
Process exited after 3.028 seconds with return value 0
Press any key to continue . . . |

```

#### 4.write c program to reverse a given number?

```

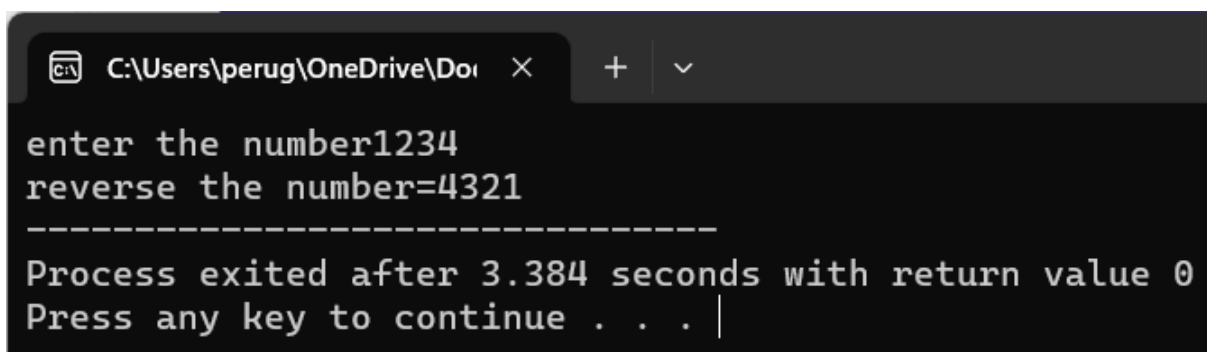
#include<stdio.h>
int main()
{

```

```

int rever,rem,n;
printf("enter the number");
scanf("%d",&n);
while(n!=0)
{
    rem=n%10;
    rever=rever*10+rem;
    n=n/10;
}
printf("reverse the number=%d",rever);
return 0;
}

```



The screenshot shows a Windows command prompt window with the following text:

```

C:\Users\perug\OneDrive\Doi  X  +  v
enter the number1234
reverse the number=4321
-----
Process exited after 3.384 seconds with return value 0
Press any key to continue . . . |

```

## 5.write a c program in find palindrome or not?

```

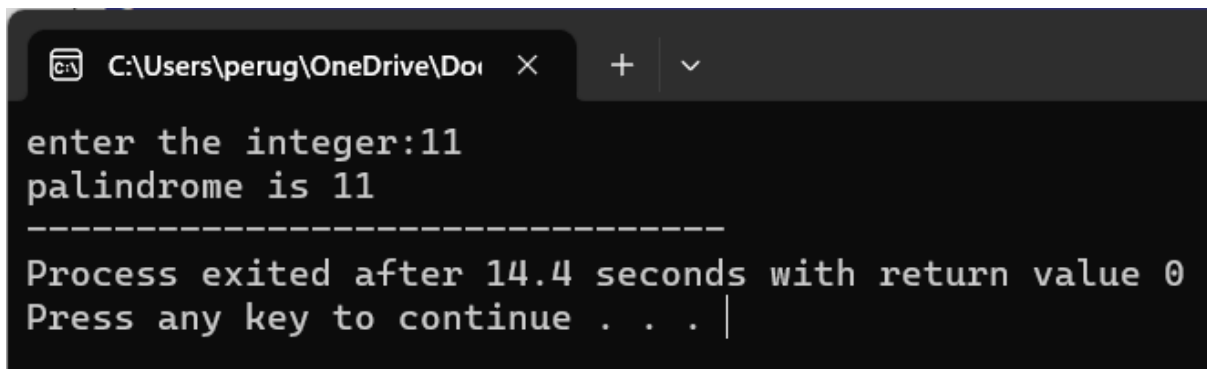
#include<stdio.h>
int main(){
int rev=0,rem,n,orginal;
    printf("enter the integer:");
    scanf("%d",&n);
    orginal=n;
    while(n!=0)
    {

```

```

        rem=n%10;
        rev=rev*10+rem;
        n=n/10;
    }
    if(original==rev)
    {
        printf("palindrome is %d",original);
    }
    else{
        printf(" not palindrome is %d",original);    }
    return 0;
}

```



```

C:\Users\perug\OneDrive\Do...
enter the integer:11
palindrome is 11
-----
Process exited after 14.4 seconds with return value 0
Press any key to continue . . . |

```

**6.write a c program to check armstrong or not?**

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

```
int main()
```

```
{
```

```
    int n,r,sum=0,armstrong;
```

```
    printf("enter n");
```

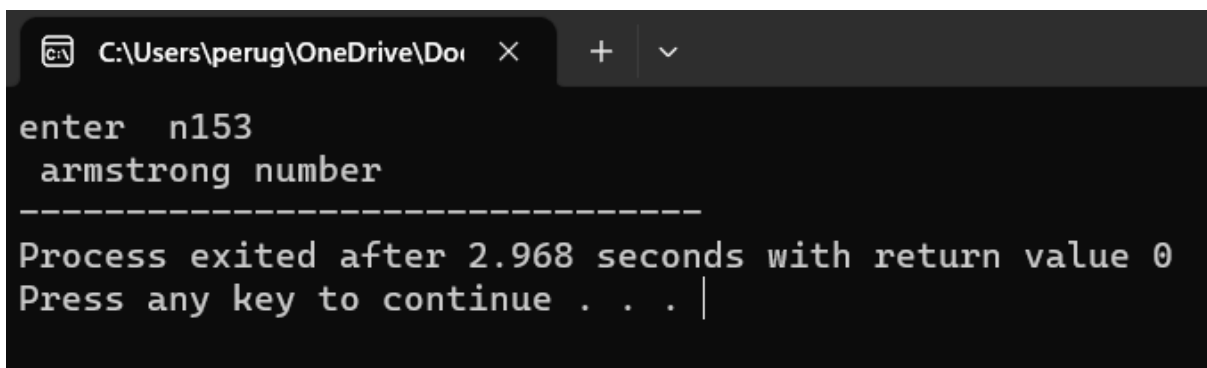
```
    scanf("%d",&n);
```

```
    armstrong=n;
```

```

while(n!=0)
{
    r=n%10;
    sum=sum+r*r*r;
    n=n/10;}
if(armstrong==sum)
    printf(" armstrong number");
else
    printf(" not a armstrong number");
return 0;
}

```



```

C:\Users\perug\OneDrive\Doi  X  +  v
enter n153
armstrong number
-----
Process exited after 2.968 seconds with return value 0
Press any key to continue . . . |

```

**7.write a c program to find a factorial given number?**

```

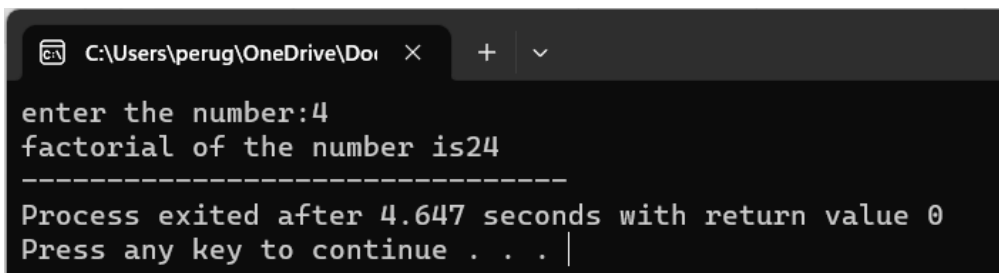
#include<stdio.h>
int main()
{
    int n,fact=1,i;
    printf("enter the number:");

```

```

scanf("%d",&n);
for(i=1;i<=n;i++)
{
    fact*=i;
}
printf("factorial of the number is%d",fact);
return 0;
}

```



The screenshot shows a Windows command prompt window with the following text:

```

C:\Users\perug\OneDrive\Doi  X  +  v
enter the number:4
factorial of the number is24
-----
Process exited after 4.647 seconds with return value 0
Press any key to continue . . . |

```

**8.write a c program to find factorial with recursion?**

```

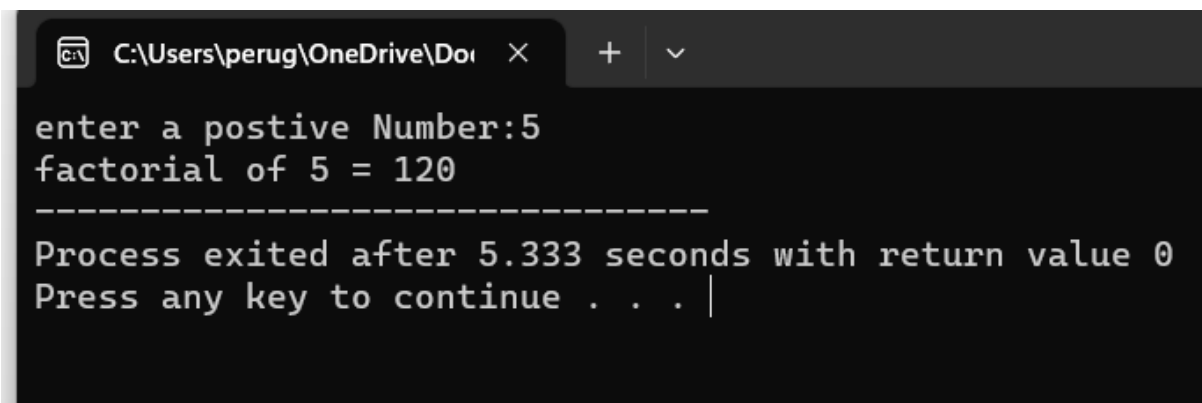
#include<stdio.h>
long int muxNumber(int n);
int main() {
    int n;
    printf("enter a postive Number:");
    scanf("%d",&n);

```

```

printf("factorial of %d = %ld",n,muxNumber(n));
    return 0; }
long int muxNumber(int n){
    if(n>=1)
        return n*muxNumber(n-1);
    else
        return 1;}

```



```

C:\Users\perug\OneDrive\Doi >
enter a postive Number:5
factorial of 5 = 120
-----
Process exited after 5.333 seconds with return value 0
Press any key to continue . . . |

```

## 9.write a c program fabbinous series with out recursion?

```

#include<Stdio.h>
int main(){
int n,i,a=0,b=1,c;
    printf("enter the number of c");
    scanf("%d%d",&a,&b);
    printf("%d",a+b);

    for(i=2;i<=n;i++)
    {

```



```

    a=b;
    b=c;
    c=a+b;
}
printf("%d\n",c);
return 0;
}

```

```

C:\Users\perug\OneDrive\Doi >
enter the number of c
0
1
11

-----
Process exited after 5.882 seconds with return value 0
Press any key to continue . . . |

```

## 10.write a c program to check fabbinous series with recursion?

```

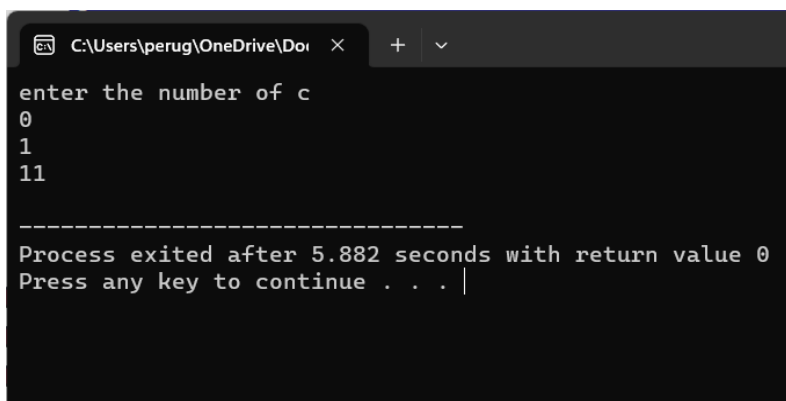
#include<stdio.h>
int main(){
int first=0, second=1, i, n, sum=0;
printf("Enter the number of terms: ");
scanf("%d",&n);
printf("Fibonacci Series:");
for(i=0 ; i<n ; i++){
if(i <= 1){

```

```

sum=i;}
else{
sum=first + second;
first=second;
second=sum;}
printf(" %d",sum)}
return 0;}

```



```

C:\Users\perug\OneDrive\Doi >
enter the number of c
0
1
11

-----
Process exited after 5.882 seconds with return value 0
Press any key to continue . . . |

```

## 11. To search a particular element in array by linear search?

```

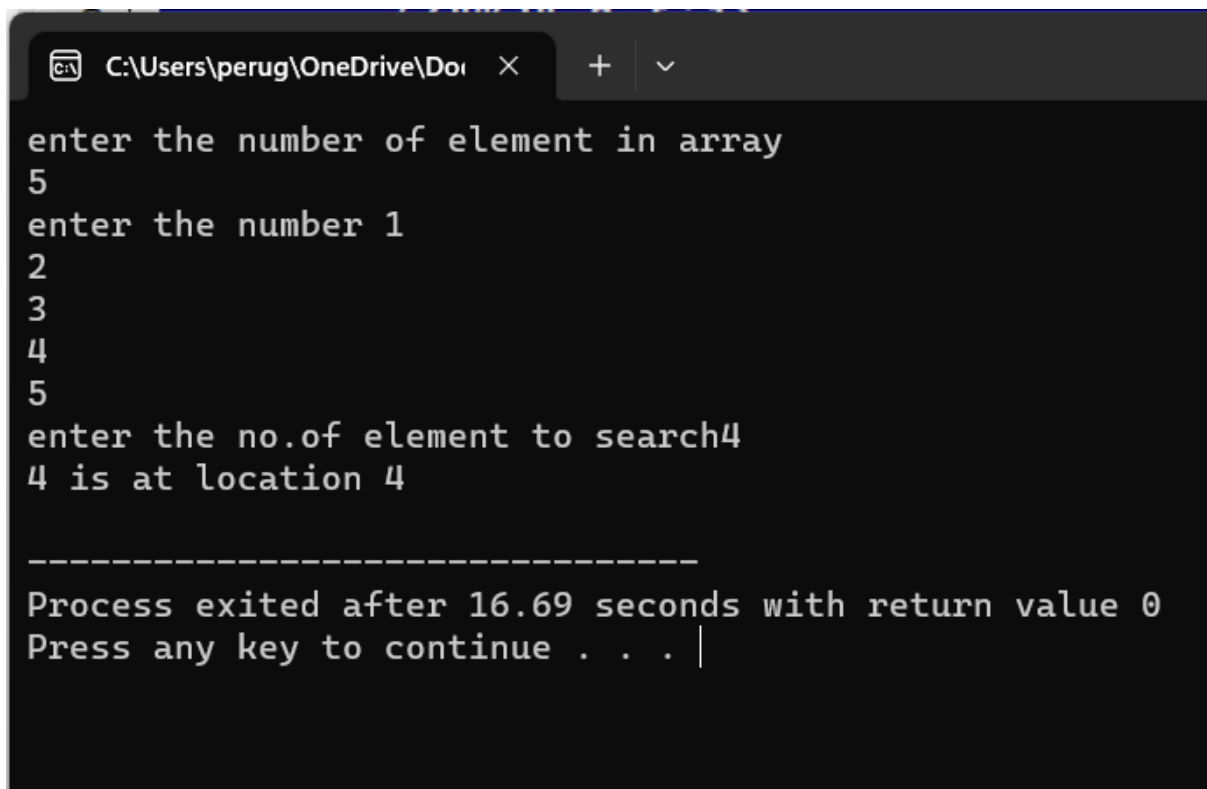
#include<stdio.h>
int main(){
    int a[100],search,i,n;
    printf("enter the number of element in array\n");
    scanf("%d",&n);
    printf("enter the number ",n);
    for(i=0;i<n;i++)
        scanf("%d",&a[i]);
    printf("enter the no.of element to search");
    scanf("%d",&search);
    for(i=0;i<n;i++)
    {

```

```

        if(a[i]==search){
            printf("%d is at location %d\n",search,i+1);
            break;}
    }
    if(i==n)
        printf("%d is not present in array\n",search);
    return 0;
}

```



```

C:\Users\perug\OneDrive\Doi  X  +  v
enter the number of element in array
5
enter the number 1
2
3
4
5
enter the no.of element to search4
4 is at location 4

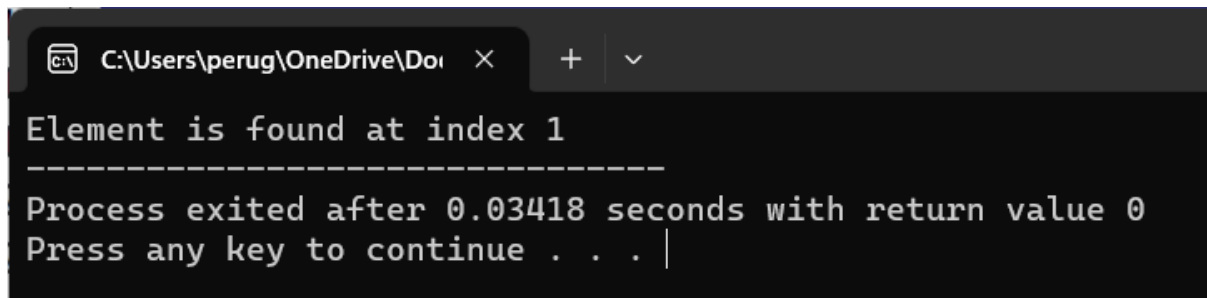
-----
Process exited after 16.69 seconds with return value 0
Press any key to continue . . . |

```

## 12.To search a particular element in array by binary search?

```
#include<stdio.h>
while (low <= high) {
    int mid = low + (high - low) / 2;
    if (array[mid] == x)
        return mid;
    if (array[mid] < x)
        low = mid + 1;
    else
        high = mid - 1;
}
return -1;
}
int main(void) {
int array[] = {3, 4, 5, 6, 7, 8, 9};
int n = sizeof(array) / sizeof(array[0]);
int x = 4;
int result = binarySearch(array, x, 0, n - 1);
if (result == -1)
    printf("Not found");
```

```
else
    printf("Element is found at index %d", result);
return 0;
}
```



The screenshot shows a Windows command prompt window with a dark background. The title bar at the top indicates the file path 'C:\Users\perug\OneDrive\Doi' and includes standard window controls. The command prompt displays the output of a C program: 'Element is found at index 1' followed by a line of dashes. Below this, it shows 'Process exited after 0.03418 seconds with return value 0' and 'Press any key to continue . . . |', where the vertical bar represents the cursor.

```
C:\Users\perug\OneDrive\Doi >
Element is found at index 1
-----
Process exited after 0.03418 seconds with return value 0
Press any key to continue . . . |
```