```
//random number
#include<iostream.h>
#include<conio.h>
#include<stdlib.h>
void main()
{
	clrscr();
	int num;
	randomize();
	for(int i=1;i<=20;i++)
	{
		num=1+random(6);
		cout<<num<<"\t";
		if(i%5 == 0)
			cout<<endl;
	}
	getch();
}
```

```
//Example using strcat and strncat
#include<iostream.h>
#include<conio.h>
#include<string.h>
void main()
```

```
{
   clrscr();
   char st1[20] ="Happy";
   char st2[] ="New Year";
   char st3[40]=" ";
   cout<<"\n st1 = "<<st1;
   cout<<"\n st2 = "<<st2;
   cout<<"\nstrcat(st1,st2) =" <<strcat(st1,st2);
   cout<<"\nstrncat(st3,st1,6) ="<< strcat(st3,st1,6);
   cout<<"\nstrcat(st3,st1) ="<< strcat(st3,st1);
   getch();
}
```

```
//Ex2_pg35 write a program to check a given array is a numerical palindrome or not 1,1,2,3,4,3,2,1,1 are
//the numberical palindromes.
#include<iostream.h>
#include<conio.h>
#include<string.h>
void main()
{
   clrscr();
   int a[]={1,1,2,3,4,3,2,1,1};
   int ans=1;
   int l = strlen(a);
   for(int i=0;i<l/2;i++)
   {
      if (a[i] != a[l-i-1])
         ans=0;
         break;
   }
```

```
   if(ans=1)
   cout<<"112343211 is palindome";
   else
      if(ans=0)
      cout<<"112343211 is not palindome";
}
```

```
// Ex2_pg56 write a program that a function, that reverse a given input string.
#include<iostream.h>
#include<conio.h>
void reverse(char r[],int e)
{
   for(int i=e-1;i>0;i--)
   {
      cout<<r[i]<<" ";
   }
}

void main()
{
   clrscr();
   char str[]='Hello world';
   int n = strlen[str];
   reverse(str,n);
   getch();
}
```

```
// ex5_pg35 write a program to covert the binary digits from the given denary number
#include<iostream.h>
#include<conio.h>
void main()
{
   clrscr();
   int num,i,bin[10],r;
   i=0;
   cout<<"Enter the denary number to binary";
   cin>>num;
   while(num !=0)
   {
      r=num%2;
      num=num/2;
      bin[i]=r;
      i++;
   }
   i--;
   for (int k=0;k>=0;k--)  //output
   {
      cout<<bin[k]<<"\t";
   }
   getch();
}
```

```
//Ex5_pg49 write a function that takes two distance values (feet and inches) as argument and returns
//the larger one. Include a main() program that accepts two distance figures from the user , pass to function
//and compare them and return to main() to display the larger.
#include<iostream.h>
#include<conio.h>
struct distance
{
   int feet;
   int inches;
}
compare(distance dist1, distance dist2)
{
   float first,second;
   distance large;
   first= dist1.feet+dist1.inches/12.0;
   second =dist2.feet+dist2.inches/12.0;
   if(first > second)
         large=dist1;
   else
      if(second>first)
         large=dist2;
   return large;
}
void main()
{
   clrscr();
   distance d1,distance d2,ans;
```

```
   cout<<"\n Enter for dist1";
   cin>>d1.feet>>d1.inches;
   cout<<"\n Enter for dist2";
   cin>>d2.feet>>d2.inches;
   ans = compare(d1,d2);
   cout<<"\n the largest is : "<<ans.feet<<ans.inches;
   getch();
}
```

```
//Ex5_pg56 write a program to check a given string is palindrome or not.
// palindromes are word that read the same forward as backward.
#include<iostream.h>
#include<conio.h>
#include<string.h>
void main()
{
   clrscr();
   char str[]='CARERAC';
   int l =strlen(str);
   int ans=1;
   for (int i=0;i<l/2;i++)
   {
      if(str[i] !=str[l-i-1])
         ans=0;
         break;
   }
   if (ans ==1 )
      cout<<" it is plaindrome";
   else
```

```
      cout<<" it is not plaindrome";
   getch();
}
```

```
//ex6 pg35 write a program to covert the hexadecimal digits from the given denary number
#include<iostream.h>
#include<conio.h>
void main()
{
   clrscr();
   int num,i,hex[10];
   i=0;
   cout<<"Enter the number to hex";
   cin>>num;
   while(num !=0)
   {
     hex[i]=num%16;
     num=num/16;
     i++;
   }

   i--;

   for (int k=i;k>=0;k--) //output
   {
   if(hex[k]<=9)
      {
         cout<<hex[k]<<"\t";
      }
   else
```

```
   {
      switch(hex[k])
      {
         case 10: cout<<"A"<<"\t";break;
         case 11: cout<<"B"<<"\t";break;
         case 12: cout<<"C"<<"\t";break;
         case 13: cout<<"D"<<"\t";break;
         case 14: cout<<"E"<<"\t";break;
         case 15: cout<<"F"<<"\t";break;
      }
   }


   }
   getch();
}
```

```
//ex7 pg49 write a program use two function
//A. function that adds varibles of type structure 'Distance' and returns a values of this same type
//B.and other that display the structure of type distance in feet and inches.
/*the output as
enter feet     : 4
enter inches    : 5.5
enter feet     : 5
enter inches    : 6.55
4' - 5.5" + 5' -6.5" = 10' - 0" */
#include<iostream.h>
#include<conio.h>
struct distance
{
   int feet;
```

```
   int inches;
}
add(distance d1,distance d2)
{
   distance d3;
   d3.inches=d1.inches+d2.inches;
   d3.feet=0;
   if(d3.inches >=12.0)
      d3.inches-= 12.0;
      d3.feet++;
      d3.feet = d1.feet + d2.feet + d3.feet;
      return d3;
}
void display(distance d1,distance d2, distance d3)
{
   cout<<d1.feet<<"\'"<<d1.inches<<"\"+" ;
   cout<<d2.feet<<"\'"<<d2.inches<<"\"=";
   cout<<d3.feet<<"\'"<<d3.inches<<"\"";
}
void main()
{
   clrscr();
   distance dist1,dist2,dist3;
   cout<<"Enter  feet for  dist1 ";
   cin>>dist1.feet;
   cout<<"Enter  inches for  dist1 ";
   cin>>dist1.inches;

   cout<<"Enter feet for dist2";
```

```
   cin>>dist2.feet;
   cout<<"Enter  inches for  dist2 ";
   cin>>dist2.inches;

   dist3=add(dist1,dist2);
   display(dist1,dist2,dist3);
   getch();
}
```

// Ex7_pg56 write a program that will count the number 'I' whether (lower and upper case) in a string given from keyboard

```
#include<iostream.h>
#include<conio.h>
#include<string.h>
const int max=100;
void main()
{
   clrscr();
   char str[max];
   cout<<"Enter the string :";
   cin.get(str,max,'$');
   int l = strlen(str);
   for(int i=0;i<l;i++)
   {
      if( str[i]=='I' || str[i]=='i'  )
      {
         count++;
      }
   }
```

```
   cout<<"the total of I in the string is :"<<count;
   getch();
}
```

```
//ex8 pg56 write a program that will count the number of vowels in the stirng given from a keyboard
#include<iostream.h>
#include<conio.h>
#include<string.h>
const int max=100;
void main()
{
      clrscr();
      char str[max];
      cout<<"\nPlease enter string :" ;
      cin.get(str,max,'$');
      int l = strlen(str);
      int count =0;
      int scount=0;
      for (int i=0;i<l;i++)
      {
         switch(str[i])
         {
            case 'A' : count++;break;
            case 'E' : count++;break;
            case 'I' : count++;break;
            case 'O' : count++;break;
            case 'U' : count++;break;
            default  : scount++;break;
         }
      }
```

```
    cout<<"total vowel is :" <<count;
    getch();
}
```

```
//write a function bin(int n, int r) which returns the binomal coefficient n!/r!(n-r)!.
#include<iostream.h>
#include<conio.h>
long int facto( long int n){
   int f=1;
   for (int i=1;i<n;i++)
   {
      f=f*i;
      return f;
   }
}
void main()
{
   clrscr();
   long int n,r,ans;
   cout<<"\n Enter for n";
   cin>>n;
   cout<<"\n Enter for r";
   cin>>r;
   ans = facto(n)/facto(r)*facto(n-r);
   cout << "bionomal cofficient " <<ans;
   getch();
}
```

```
//linear_search
#include<iostream.h>
```

```
#include<conio.h>
void main()
{
   clrscr();
   int found, skey;
   int arr[10]={12,3,43,4,6,86,3,32,5,65};
   int i=0;
   cout<<"enter search key";
   cin>>skey;
   while(!found && i<10)
   {
      if(skey=arr[i])
         found=1;
      else
      i++;
   }
   {
      if(found==1)
         cout<<"found";
      else
         cout<<"not found"
   }
   getch();
}
```

```
/*if count the number of face of a six-side dice that simulate 60 rolls with the following program*/
#include<iostream.h>
#include<conio.h>
#include<iomanip.h>
#include<stdlib.h>
```

```
void main()
{
   clrscr();
   int freq1=0;int freq2=0;int freq3=0;int freq4=0;int freq5=0;int freq6=0;
   int face;
   randomize();
   for( int roll=1; roll<=60;roll++)
   {
      face = 1 + random(6);

      switch(face)
      {
         case 1: freq1++;break;
         case 2: freq2++;break;
         case 3: freq3++;break;
         case 4: freq4++;break;
         case 5: freq5++;break;
         case 6: freq6++;break;
      }
   cout<<"\n\t "<< "face " <<"\t frequency" ;
   cout<<"\n\t" << "\t \t" << freq1;
   cout<<"\n\t" << "\t \t" << freq2;
   cout<<"\n\t" << "\t \t" << freq3;
   cout<<"\n\t" << "\t \t" << freq4;
   cout<<"\n\t" << "\t \t" << freq5;
   cout<<"\n\t" << "\t \t" << freq6;
   }
   getch();
}
```