Slip no 1

1) Write a C++ program to prompt the user to input her/his name and print this name on thescreen, as shown below. The text from keyboard can be read by using cin >> and to display the text on the screen you can use cout <

```
#include<iostream>

using namespace std;

int main(}

{

 char name[10];

 cout<<"Enter your name ";

 cin>>name;

 cout<<name;

}
```

2) Write a C++ program to demonstrate the use of Friend funct

```
#include<iostream.h>
#include<conio.h>
#include<stdio.h>
#include<math.h>
class DM
{
public:
double
meter,centimeter;
};
class DB
{
public:
double feet,inches;
friend void
add(DM,DB);
};
void add(DM dm,DB db)
{
double d1,d2;
cout<<"\nEnter the
distance in meter and
entimeter:";
cin>>dm.meter>>dm.ce
ntimeter;
cout<<"\nEnter the
distance in feet and
inches:";
cin>>db.feet>>db.inche
s;
d1=dm.meter+(db.feet)
/3.281;
d2=dm.centimeter+(db.
inches)*2.54;
cout<<"\nMeter + Feet
= "<<d1<<" meter";
cout<<"\nCentimeter +
inches = "<<d2<<"
cemtimeter";
}
void main()
{
clrscr();
DM dm;
DB db;
add(dm,db);
getch();
}
```

3.Write a C++ program to create a class Student which contains data members as Roll_Number, Stud_Name, Marks in five subjects. Write member functions to accept Student inf mation. Display all details of student along with a percentage and class obtained depending on percentage. (Use array of objects)

```
#include <iostream>
using namespace std;
class Student
{
 private:
 intRoll_Number, Marks[5];
 charStud_Name[80], Class;
 public:
 void accept();
 void display();
};
void Student :: accept()
{
 cout<< " Accept Student Roll Number "<<endl;
 cin>>Roll_Number;
 cout<< " Accept Student Name"<<endl;
 cin>>Stud_Name;
 cout<< " Accept Student Marks "<<endl;
 float total = 0;
 for(inti = 0; i< 5; i++)
 {
 cout<< " \t Subject "<<i<<endl;
 cin>> Marks[i];
 total = total + Marks[i];
 }
 total = total / 5; // calculate Percentage
 if(total < 60)
 Class='B';
 if((total >= 60)&&(total < 70))
 Class='A';
 if(total >= 70)
 Class='O';
}
void Student :: display()
{
 cout<< " " <<Roll_Number<< "\t" <<Stud_Name<< "\t ";
 for(inti = 0; i< 5; i++)
 cout<< Marks[i] << "\t";
 cout<< Class << "\n";
}
```

```
int main()
{
 int n, i;
 Student p[20];
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *
* * * * " <<endl;
 cout<< " \t How many Student data
to enter " <<endl;
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *
* * * * " <<endl;
 cin>> n;
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *
* * * * " <<endl;
 cout<< " \t Enter Student Details "
<<endl;
 for ( i = 0 ; i< n ; i ++)
 {
 cout<<" * * * * * * * * * * * * * * *
* * * * * * * *
* * * * * " <<endl;
 cout<<" \t Enter Student Details of
Student := "
<<i<<endl;
 cout<<" * * * * * * * * * * * * * * *
* * * * * * * *
* * * * * " <<endl;
 p[i].accept();
 }
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *
* * * * " <<endl;
 cout<< " Display Student Details "
<<endl;
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *
* * * * " <<endl;
 cout<< " RNO \tSName \tSub1 \tSub
2 \tSub 3 \tSub4 \tSub
5";
 cout<< “\t Class"<<endl;
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *
* * * * " <<endl;
 for ( i = 0 ; i< n ; i ++)
 p[i].display();
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *
* * * * " <<endl;
 return 0;
}
```

Slip No 2

Q1.Write a C++ program to find the factorial of a number using a recursive fu

```
#include <iostream>
using namespace std;
int main()
{
int i,fact=1,number;
cout<<"Enter any Number: ";
cin>>number;
for(i=1;i<=number;i++){
fact=fact*i;
}
cout<<"Factorial of " <<number<<" is: "<<fact<<endl;
return 0;
}
```

Q2 **A book (ISBN) and CD (data capacity) are both types of media (id, title) objects. A person buys 10 media items, each of which can be either book CD. Display the list of allbooks andCD’s bought. Define the classes and appropriate member functions to accept anddisplay data.Use pointers and concepts of polymorphism (virtual func**

```
*   #include<iostream>
*   #include<string.h>
*   #include<stdlib.h>
*   using namespace std;
*   class media
*   {
*    protected:
*    int id;
*    char title[50];
*    public:
*    media(int n,char *s)
*    {
*    id = n;
*    strcpy(title,s);
*    }
*    virtual void display()=0;
*   };
*   class book : public media
*   {
*    long isbn;
*    public:
*    book(int n,char *s,long isbn):media(n,s)
*    {
*    this->isbn=isbn;
*    }
*    void display()
*    {
*    cout<<"\nMedia Id:"<<id;
*    cout<<"\nTitle :"<<title;
```

```
*	cout<<"\nISBN :"<<isbn;
*	}
*	};
*	class cd: public media
*	{
*	int capacity;
*	public:
*	cd(int n,char *s,int c):media(n,s)
*	{
*	capacity=c;
*	}
*	void display()
*	{
*	cout<<"\nMedia Id:"<<id;
*	cout<<"\nTitle :"<<title;
*	cout<<"\nCAPACITY :"<<capacity;
*	}
*	};
*	int main()
*	{
*	media **m;
*	int inputs;
*	cout << "Enter total media inputs : ";
*	cin >> inputs;
*	m = new media*[inputs];
*	for(int i=0;i<inputs;i++)
*	{
*	int id,capacity;
*	long isbn;
*	char title[30], mediaType;
*	cout<<"Enter the media type(C for CD/B for Book):";
*	cin>>mediaType;
*	cout<<"\nENTER ID:";
*	cin>>id;
*	cout<<"\nENTER TITLE:";
*	cin>>title;
*	if(mediaType == 'B' || mediaType == 'b')
*	{
*	cout<<"ENTER ISBN: ";
*	cin>>isbn;
*	m[i] = new book(id,title,isbn);
*	}
*	else if(mediaType == 'C' || mediaType == 'c')
*	{
*	cout<<"ENTER CAPACITY: ";
*	cin>>capacity;
*	m[i] = new cd(id,title,capacity);
*      }
*      }
*      cout<<"\n\nMEDIA DETAILS ARE:";
*      for(int i=0;i<inputs;i++)
*      {
*      cout<<"\n------------------------------\n";
*      m[i]->display();
*      cout<<"\n------------------------------\n";
*      }
*      return 0;
* }
```

Q3. Create a C++ class for a student object with the following attributes—roll no, name, number of subjects, marks of subjects. Write member function f accepting marks and displayall information of student along with total and Percentage. Display marklist with Use of manipulators.

```
#include <iostream>
using namespace std;
class Student
{
 private:
 intRoll_Number, Marks[5];
 charStud_Name[80], Class;
 public:
 void accept();
 void display();
};
void Student :: accept()
{
 cout<< " Accept Student Roll Number "<<endl;
 cin>>Roll_Number;
 cout<< " Accept Student Name"<<endl;
 cin>>Stud_Name;
 cout<< " Accept Student Marks "<<endl;
 float total = 0;
 for(inti = 0; i< 5; i++)
 {
 cout<< " \t Subject "<<i<<endl;
 cin>> Marks[i];
 total = total + Marks[i];
 }
 total = total / 5; // calculate Percentage
 if(total < 60)
 Class='B';
 if((total >= 60)&&(total < 70))
 Class='A';
 if(total >= 70)
 Class='O';
}
void Student :: display()
{
 cout<<  "  "  <<Roll_Number<<  "\t"
<<Stud_Name<< "\t ";
 for(inti = 0; i< 5; i++)
 cout<< Marks[i] << "\t";
 cout<< Class << "\n";
}
int main()
{
 int n, i;
 Student p[20];
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *
* * * * " <<endl;
 cout<< " \t How many Student data
to enter " <<endl;
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *
* * * * " <<endl;
 cin>> n;
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *
* * * * " <<endl;
 cout<< " \t Enter Student Details "
<<endl;
 for ( i = 0 ; i< n ; i ++)
 {
 cout<<" * * * * * * * * * * * * * * *
* * * * * * * *
* * * * * " <<endl;
 cout<<" \t Enter Student Details of
Student := "
<<i<<endl;
 cout<<" * * * * * * * * * * * * * * *
* * * * * * * *
* * * * * " <<endl;
 p[i].accept();
 }
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *
* * * * " <<endl;
 cout<<  " Display Student Details "
<<endl;
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *
* * * * " <<endl;
 cout<< " RNO \tSName \tSub1 \tSub
2 \tSub 3 \tSub4 \tSub
5";
 cout<< “\t Class"<<endl;
 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *

* * * * " <<endl;

 for ( i = 0 ; i< n ; i ++)

 p[i].display();

 cout<< " * * * * * * * * * * * * * * *
* * * * * * * * * * * *

* * * * " <<endl;

 return 0;

}
```

Slip 3

Q1. Write a C++ program to print area of circle, square and rectangle using inline fu

```
#include<iostream.h>
#include<conio.h>
using namespace std;
int area(int);
int area(int,int);
float area(float);
float area(float,float);
int main()
{
ints,l,b;
floatr,bs,ht;
cout<<"Enter side of a
square:";
cin>>s;
cout<<"Enter length
and breadth of
rectangle:";
cin>>l>>b;
cout<<"Enter radius of
circle:";
cin>>r;
cout<<"Enter base and
height of triangle:";
cin>>bs>>ht;
cout<<"Area of square
is"<<area(s);
cout<<"\nArea of
rectangle is
"<<area(l,b);
 cout<<"\nArea of circle
is "<<area(r);
 cout<<"\nArea of
triangle is
"<<area(bs,ht);
}
int area(int s)
{
 return(s*s);
}
int area(intl,int b)
{
 return(l*b);
}
float area(float r)
{
 return(3.14*r*r);
}
float area(float
bs,floatht)
{
 return((bs*ht)/2);
}
```

Q2.Write a C++ program to create a class Person that contains data members as Person_Name, City,

Mob_No. Write a C++ program to perf m following functions: a. To accept and display Person inf mation b. To search the mobile number of a given person c. To search the Person details of a given mobile number (Use Function Overloading)

```
#include<conio.h>
#include<iostream.h>
#include<string.h>
class person
 {
 char
name[10],city[10],mno[
12];
 public:
 void accept()
 {
 cout<<"\n Enter name :
";
 cin>>name;
 cout<<"\n Enter city : ";
 cin>>city;
 cout<<"\n Enter mob no
: ";
 cin>>mno;
 }
 void display()
 {
 cout<<"\n Name of
person = "<<name;
 cout<<"\n city =
"<<city<<"\n mobile no
= "<<mno;

cout<<"\n===========
====================
=====
==";
 }
 int display(char a[])
 {
 if(strcmp(name,a)==0)
 { cout<<"mno="<<mno;
 return 1;
 }
 return 0;
 }
 int display(char
mbno[],int no)
 {
```

```
if(strcmp(mno,mbno)==
0)
 {
 display();
 return 1;
 }
 return 0;
 }
};
void main()
 {
 intn,i,cnt=0,ans;

charsname[20],mbno[12
];
 personob[20];
 clrscr();
 cout<<"\n Enter no of
persons : ";
 cin>>n;
 for(i=0;i<n;i++)
 {
 ob[i].accept();
 }
 for(i=0;i<n;i++)
```

```
 {
 ob[i].display();
 }
 cout<<"\n Enter name
of person to be search :
";
 cin>>sname;
 for(i=0;i<n;i++)
 {

ans=ob[i].display(sname
);
 if(ans==1)
 cnt++;
 }
 if(cnt==0)
 cout<<"\n person not
found\n ";
 cout<<"\n Enter mobile
no to be search : ";
 cin>>mbno;
 cnt=0,ans=0;
 for(i=0;i<n;i++)
 {
```

```
ans=ob[i].display(mbno,
1);
 if(ans==1)
 cnt++;
 }
 if(cnt==0)
 cout<<"\n person not
found\n";
 getch();
}
```

Q3. Write a program in C++ that copies one file

```
#include<iostream>
#include<fstream>
usingnamespacestd;
intmain()
{
ifstream fs;
ofstreamft;
stringstr;
charsourcefile[50],
destinationfile[50];
cout<<"Enter Source File
with Extension: ";
gets(sourcefile);
fs.open(sourcefile);
if (!fs)
{
cout<<"Error in Opening
Source File...!!!";
exit(1);
}
cout<<"Enter
Destination File with
Extension: ";
gets(destinationfile);
ft.open(destinationfile);
if (!ft)
{
cout<<"Error in Opening
Destination File...!!!";
fs.close();
exit(2);
}
if (fs &&ft)
{
while (getline(fs, str))
{
ft<<str<<"\n";
}
cout<<"\n\n Source File
Date Successfully Copied
to
Destination File...!!!";
}
else
{
cout<<"File Cannot
Open...!!!";
}
cout<<"\n\n Open
Destination File and
Check!!!\n";
fs.close();
ft.close();
}
```

Slip no 4

Q1.To calculate the area of circle, rectangle and triangle using function overl

```
#include<iostream>
using namespace std;
int area(int);
int area(int,int);
float area(float);
float area(float,float);
int main()
{
ints,l,b;
floatr,bs,ht;
cout<<"Enter side of a
square:";
cin>>s;
cout<<"Enter length
and breadth of
rectangle:";
cin>>l>>b;
cout<<"Enter radius of
circle:";
cin>>r;
cout<<"Enter base and
height of triangle:";
cin>>bs>>ht;
cout<<"Area of square
is"<<area(s);
cout<<"\nArea of
rectangle is
"<<area(l,b);
cout<<"\nArea of circle
is "<<area(r);
cout<<"\nArea of
triangle is
"<<area(bs,ht);
}
int area(int s)
{
return(s*s);
}
int area(intl,int b)
{
return(l*b);
}
float area(float r)
{
return(3.14*r*r);
}
float area(float
bs,floatht)
```

Q2.Create a class student containing data members: a. Roll_no b. name c. marks1, marks2,marks3 Write necessary member functions: • to accept details of all students • to display details of one student • to display details of all students (Use Function overloading

```
#include<iostream.h>
#include<conio.h>
class stud
{
public: int rno;
char name[20];
int m1,m2,m3;
public:
void details()
{
cout<<"\nROLL_NO
NAME MARKS THREE
SUBJECT \n";
cin>>rno>>name>>m1>
>m2>>m3;
}
void details(int nm)
{
cout<<"\nDetails of
ONE student :\n";
cout<<"\nROLL_NO\tN
AME\tMARK1\tMARK2\
tMARK3 \n";
cout<<"============
===================
=====\n" ;
cout<<nm<<"\t"<<nam
e<<"\t"<<m1<<"\t"<<m
2<<"\t"<<m3<<endl<<
"\n\n";
}
void details(char*)
{
cout<<rno<<"\t"<<nam
e<<"\t"<<m1<<"\t"<<m
2<<"\t"<<m3<<endl;
}
};
void main()
{
int rn,i,n;
stud s[20];
clrscr();
cout<<"How many
student inform: \n";
cin>>n;
for(i=0;i<n;i++)
{
s[i].details();
}
cout<<"Enter the roll
number:\n ";
cin>>rn;
for(i=0;i<n;i++)
{
if(rn==s[i].rno)
{
s[i].details(rn);
}
}
cout<<"Details of all
student: \n";
cout<<"ROLL_NO\tNAM
E\tMARK1\tMARK2\tM
ARK3 \n\n";
cout<<"============
===================
=====\n" ;
for(i=0;i<n;i++)
{
```

```
s[i].details(s[i].name);
}
getch();
}
```

Q3. Create two classes' dist1 (meters, centimeters) and dist2 (feet, inches). Accept two distances from the user, one in meters and centimeters and the other in feet and inches. Find the sum and difference of the two distances. Display the result in both (meters and centimeters)as well as feet and inches (use friend function).

```
#include<iostream.h>
#include<conio.h>
#include<stdio.h>
#include<math.h>
class DM
{
public:
double meter,centimeter;
};
class DB
{
public:
double feet,inches;
friend void add(DM,DB);
};
void add(DM dm,DB db)
{
double d1,d2;
cout<<"\nEnter the distance in meter and entimeter:";
cin>>dm.meter>>dm.centimeter;
cout<<"\nEnter the distance in feet and inches:";
cin>>db.feet>>db.inches;
d1=dm.meter+(db.feet)/3.281;
d2=dm.centimeter+(db.inches)*2.54;
cout<<"\nMeter + Feet = "<<d1<<" meter";
cout<<"\nCentimeter + inches = "<<d2<<" cemtimeter";
}
void main()
{
clrscr();
DM dm;
DB db;
add(dm,db);
getch();
}
```

Slip no 5

Q1Write a C++ program to sort an Array in Ascend

```
#include <iostream>
using namespace std;
int main(){
int i, j, size, temp;
int arr[25];
// Asking for input
cout << "Enter the total
no. of elements: ";
cin >> size;
// Enter the elements
cout << "Enter the
elements of the array: "
<< endl;
for (i = 0; i < size; i++){
cin >> arr[i];
}
// Sorting elements in
ascending order
for (i = 0; i < size; i++){
for (j = i; j < size; j++){
if (arr[i] > arr[j+1]){
temp = arr[i];
arr[i] = arr[j+1];
arr[j+1] = temp;
}
}
}
// Displaying output
cout << "Elements
sorted in the ascending
order are: " << endl;
for (i = 1; i <= size; i++){
cout << arr[i] << endl;
}
return 0;
}
```

Q2 is repeated

Q3.Create a class time that contains hours, minute and seconds as data members. Write the member function to overload operat '+' to add two object of type time, (Use Parameterized construct to accept values f time

```
#include
using namespace std;
class Time{
private:
int hour;
int minute;
public:
//constructor for
initializing objects
//this constructor uses
default arguments
Time(int h = 0, int m =
0){
hour = h;
minute = m;
}
Time add(Time t){
Time temp;
temp.minute = minute
+ t.minute;
temp.hour = hour +
t.hour;
if(temp.minute >= 60){
temp.hour++;
temp.minute -= 60;
}
return temp;
}
// function to display
time
void display(){
cout<<hour<<" hr
"<<minute<<"
min"<<endl;
}
};
int main(){
```

```
Time t1(4,30),
t2(5,30),t3;
t3 = t1.add(t2);
t1.display();
t2.display();
t3.display();
return 0;
}
Sample Run:
4 hr 30 min
5 hr 30 min
10 hr 0 min
```

Slip no 6

Q1.Write a C++ program to find volume of cube, cylinder and rectangle using function overlo

```
#include<iostream.h>
#include<conio.h>
const float pi=3.14;
float vol(float l) //Cube
{
return l*l*l;
}
float vol(float r,float h)
//Cylinder
{
return (pi*r*r*h);
}
float vol(float l,float
b,float h)
{
return (l*b*h);
}
void main()
{
float l,r,b,h,t;
clrscr();
cout<<"\nEnter the
Length of Cube: \n";
cin>>l;
t=vol(l);
cout<<"\n\nVolume of
Cube: "<<t;
cout<<"\n\nEnter the
Radius & Hieght of
Cylinder: \n";
cin>>r>>h;
t=vol(r,h);
cout<<"\n\nVolume of
Cylinder: "<<t;
cout<<"\n\nEnter the
Length,Breadth &
Hieght of Rectangle:
\n";
cin>>l>>b>>h;
t=vol(l,b,h);
cout<<"\n\nVolume of
Rectangle: "<<t;
getch();
}
```

Q2. . Write a C++ program to create a class District. having district_code, district_name, area_sqft, population, literacy_rate. F displaying details use appropriate manipulat s. The program should contain following menu : a. Accept details of n district b. Display details of district. c. Display details of district having highest literacy rate

```
#include<iostream.h>
#include<conio.h>
class district
{
```

```
public: int code;
char name[20];
int area,pop,lrate;
public:
void details()
{
cout<<“\District code\t
name\tarea\tpopulatio
n\tliteracy rate”<<endl;
cin>>code
>>name>>area>>pop>>
lrate;
}
void details(int nm)
{
cout<<“\nDetails of
ONE district :\n”;
cout<<“\ncode\tname\t
area\tpop\tlrate \n”;
cout<<“============
==================
=====\n” ;
cout<<“\ncode\tname\t
area\tpop\tlrate \n”;
}
void details(char*)
{
cout<<“\ncode\tname\t
area\tpop\tlrate \n”;
}
};
void main()
{
int i,n,hrate;
district s[20];
clrscr();
cout<<“How many
district
information:”<<endl;
cin>>n;
for(i=0;i<n;i++)
{
s[i].details();
}
hrate=s[0].lrate
for(i=0;i<n;i++)
{
if(hrate<=s[i].lrate)
{
hrate=s[i].lrate;
}
}
Cout<<”Highest literacy
rate”<<endl;
Cout<<hrate;
cout<<“Details of all
district: \n”;
cout<<“\District code\t
name\tarea\tpopulatio
n\tliteracy rate”<<endl ;
cout<<“============
==================
=====\n” ;
for(i=0;i<n;i++)
{
s[i].details(s[i].name);
}
getch();
}
```

Q3.Create base class called shape. Use this class to st e two double type values that could beused to compute the area of figures. Derive two specific classes called cylinder and rectangle from the base shape. Add to the base class, a member function get_data(), print_data() to initialize base class data members

and display_area(), display_perimeter() to compute and display area and perimeter of shape

```
#include<iostream>
using namespace std;
class Shape
{
 public: double a,b;
 void get_data ()
 {
 cin>>a>>b;
 }
 virtual void display_area () = 0;
};
class Triangle:public Shape
{
 public: void display_area ()
 {
 cout<<"Area of triangle
"<<0.5*a*b<<endl;
 }
};
class Rectangle:public Shape
{
 public: void display_area ()
 {
 cout<<"Area of rectangle
"<<a*b<<endl;
 }
};
int main()
{
 Triangle t;
 Shape *st = &t;
 cout<<"Enter base and altitude: ";
 st->get_data();
 st->display_area();
Rectangle r;
 Shape *sr = &r;
 cout<<"Enter length and breadth: ";
 sr->get_data();
 sr->display_area();
 return 0;
}
```

Slip No 7

Q1.Write a C++ Program to read an integer n and pri

```
");break; 1. #include
<iostream> 2. using
namespace std;
3. int main()
4. {
5. int i,fact=1,number;
6. cout<<"Enter any
Number: ";
7. cin>>number;
8.
for(i=1;i<=number;i++){
9. fact=fact*i;
10. }
11. cout<<"Factorial of
" <<number<<" is:
"<<fact<<endl;
12. return 0;
13. }
```

Slip 7

Q2) Write a C++ program using class which contains two data members of type integer. Create and initialize the object using

default construct , parameterized construct and parameterized construct with default value. Write a member function to display maximumfrom given two num

```
#include <iostream>
using namespace std;
class ConstDemo
{
 int n1, n2;
 public:
 ConstDemo()
 {
 n1 = n2 = 0;
 }
 ConstDemo(int a1 , int
a2 = 0 )
 {
 if(a2 ==0)
 a2 = a1;
 n1 = a1;
 n2 = a2;
 }
 void maxNumber()
 {
 if ( n1 > n2)
 {
 cout << " n1 ( value = "
<< n1 << " ) is greater ";
 cout << "than n2 (
value = " << n2 << " )";
 }
 else
 if ( n2 > n1 )
 {
 cout << " n2 ( value = "
<< n2 << " ) is greater ";
 cout << "than n1 (
value = " << n1 << " )";
 }
 else
 {
 cout << " Both values
n1 ( value = " << n1 << "
) ";
 cout << "and n2 ( value
= " << n2 << " ) are
same. ";
 }
 }
};
int main()
{
 while(true)
 {
 int n, n1, n2;
 cout << "* * * * * * * *
* * * * * * * * * * * * *
* * * * * * * *
*"<<endl;
 cout << " \t Accept two
integer data members "
<< endl;
 cout << " Display
maximum from two
integer data numbers "
<< endl;
 cout << "* * * * * * * *
* * * * * * * * * * * * *
* * * * * * * *
*"<<endl;
 cout << " \t Initialize
the object using " <<
endl;
 cout << " 1 : Default
Constructor \t 2 :
Parameterized
Constructor" << endl;
```

```
 cout << " 3 :
Parameterized
Constructor with
default value" <<
endl;
 cout << "\t \t Exit :
Other" << endl;
 cout << " \t Choose
Appropriate option " <<
endl;
 cout << "* * * * * * * *
* * * * * * * * * * * * *
* * * * * * * *
*"<<endl;
 cout << " \t ";
 cin >> n;
 switch(n)
 {
 case 1:
 {
 ConstDemo c1;
 cout << "* * * * * * * *
* * * * * * * * * * * * *
* * * * * *
*"<<endl;
 cout << " \t Display
maximum from two
integer data numbers
" << endl;
 cout << "* * * * * * * *
* * * * * * * * * * * * *
* * * * * *
*"<<endl;
 c1.maxNumber();
 break;
 }
 case 2:
 {
 cout << " \t Accept first
Parameter " << endl <<
" \t ";
 cin >> n1;
 cout << " \t Accept
Second Parameter " <<
endl << " \t ";
 cin >> n2;
 ConstDemo c2( n1, n2);
 cout << "* * * * * * * *
* * * * * * * * * * * * *
* * * * * *
*"<<endl;
 cout << " Display
maximum from two
integer data numbers
" << endl;
 cout << "* * * * * * * *
* * * * * * * * * * * * *
* * * * * *
*"<<endl;
 c2.maxNumber();
 break;
 }
 case 3:
 {
 cout << " \t Accept One
Parameter " << endl ;
 cout << " \t ( This
Parameter use as
default Parameter )" <<
endl;
 cout << " \t ";
 cin >> n1;
 ConstDemo c3( n1);
 cout << "* * * * * * * *
* * * * * * * * * * * * *
* * * * * *
*"<<endl;
```

```
 cout << " \t Display
maximum from two
integer data numbers
" << endl;
 cout << "* * * * * * * *
* * * * * * * * * * * * * *
* * * * * *
*"<<endl;
 c3.maxNumber();
 break;
 }
 default:
 cout << " \t Thank You
to Use this Program !";
 exit(0);
 }
 cout << endl;
 cout << "* * * * * * * *
* * * * * * * * * * * * * *
* * * * * *
*"<<endl;
 cout << " \t Are you
want to continue ... " <<
endl;
 cout << "* * * * * * * *
* * * * * * * * * * * * * *
* * * * * *
*"<<endl;
 cout << " \t IF Yes : 1 \t
No : Any other value "
<< endl << " \t
";
 cin >> n;
 if(n == 1)
 {
 continue;
 }
 else
 {
 cout << " \t Thank You
to Use this Program !";
 exit(0);
 }
 }
}
```

Q3 is repeated

Slip no 8

Q1. . Write a program in C++ to demonstrate the manipulat

```
#include<iomanip>
#include<iostream>
using namespace std;
int main()
{
cout<< setw(10) << 1 <<
endl;
cout<< setw(10) << 10
<< endl;
cout<< setw(10) <<
setfill('*')<< 100 <<
endl;
cout<< setprecision(2)
<< 22/7.0 << endl;
cout<< setbase(8) << 65
<< endl;
cout<< setbase(10) <<
0101 << endl;
cout<< setbase(10) <<
0x41 << endl;
cout<< setw(5) <<
setiosflags(ios::left)<<"
Hello"<< endl;
}
```

Q2 is repeated

Q3. Create a base class Conversion. Derive three different classes Weight (Gram, Kilogram), Volume (Milliliter, Liter), Currency (Rupees, Paise) from Conversion class. Write a C++ program to perf m read, convert and display operations. (Use Pure virtual function)

```
#include<iostream.h>

#include<conio.h>

class conversion

{

public:

virtual void show()=0;

};

class weight:public
conversion

{

int gm,kg;

public:

void get1()

{

cout<<"\n Enter Gram :
";

cin>>gm;

}

void show()

{

kg=gm/1000;

gm=gm % 1000;

cout<<"\n "<<kg<<" :=""
kg="" &=""
"<<gm<<"="" gram";

 }

};

class volume:public
conversion

{

int ltr,mltr;

public:

void get2()

{

cout<<"\n Enter
Milliliter : ";

cin>>mltr;

ltr=mltr % 1000;

mltr=mltr / 1000;

}void show(){

cout<<"\n "<<ltr<<" :=""
liter="" &=""
"<<mltr<<"=""
milliliter";

 }

};
```

```
class currency:public conversion
{
float pse,rs;
public:
void get3()
{
cout<<"\n Enter Rupees : ";
cin>>rs;
pse=rs*100;
}
void show()
{
cout<<"\n Paise : "<<pse;
 }
};
void main(){
clrscr();
weight w;
volume v;
currency c;
conversion *p;
cout<<"\n Accept Info........";
w.get1();
v.get2();
c.get3();
cout<<"\n-----------------------------------";
p=&w;
p->show();
cout<<"\n-----------------------------------";
p=&v;
p->show();
cout<<"\n-----------------------------------";
p=&c;
p->show();
getch();
}
</pse;
</ltr<<"></kg<<">
```

Slip No 9

Q1.Write a menu driven C++ program using class to perf m all arithme

```
 #include <iostream>
using namespace std;
class ArithmaticOpe
{
 private:
 int n1, n2;
 public:
 void accept();
 void addition();
 void subtraction();
 void division();
 void multiplication();
};
inline void
ArithmaticOpe ::
accept()
{
 cout << " Enter First
Integer n1 " << endl << "
\t ";
 cin >> n1;
 cout << " Enter Second
Integer n2 " << endl << "
\t ";
 cin >> n2;
}
inline void
ArithmaticOpe ::
addition()
{
 cout << " Addition : " <<
n1 + n2 << endl;
}
inline void
ArithmaticOpe ::
subtraction()
{
 cout << " Subtraction : "
<< n1 - n2 << endl;
}
inline void
ArithmaticOpe ::
division()
{
 cout << " Division : " <<
(float) n1 / n2 << endl;
}
inline void
ArithmaticOpe ::
multiplication()
{
 cout << " Multiplication
: " << n1 * n2 << endl;
}
int main()
{
 int n, i;
 ArithmaticOpe obj;
 cout << " * * * * * * * *
* * * * * * * * * * * * * *
* * * *
* * * * * " << endl;
 cout << " \t Enter two
integer numbers " <<
endl;
 cout << " * * * * * * * *
* * * * * * * * * * * * * *
* * * *
* * * * * " << endl;
 obj.accept();
 while(true)
 {
```

```
 cout << " * * * * * * * *
* * * * * * * * * * * * * *
* * *
* * * * * * " << endl;
 cout << "\tEnter the
appropiate integer
number for
arithmetic operation";
 cout << endl;
 cout << " \t Addition : 1
\t\t Subtraction : 2" <<
endl;
 cout << " \t Division : 3
\t\t Multiplication : 4"
<< endl;
 cout << " \t\t QUIT : 5
OR Other" << endl;
 cout << " * * * * * * * *
* * * * * * * * * * * * * *
* * *
* * * * * * " << endl;
 cin >> n;
 switch(n)
 {
 case 1: obj.addition();
 break;
 case 2:
obj.subtraction();
 break;
 case 3: obj.division();
 break;
 case 4:
obj.multiplication();
 break;
 default : cout << "Thank
You to use this program
! ";
 exit (0);
 }
 }
 return 0;
}
```

Q2. **Write a C++ program to create a class novel which contains data member as id, name andauth . Write member function to accept and display novel inf mation. Also display the count of novels (use static data member to maintain the count of novel)**

```
#include<iostream.h>
#include<conio.h>
class book
{
 int id;
 char
name[20],author[20],pu
b[20];
 static int cnt;
 public:
 void getdata()
 {
 cout<<"\nEnter book id
: ";
 cin>>id;
 cout<<"\nEnter book
name : ";
 cin>>name;
 cnt++;
 cout<<"\nEnter author
name : ";
 cin>>author;
 cout<<"\nEnter
publication : ";
 cin>>pub;
 }
 void display()
 {

//cout<<"\n\n********
*****OUTPUT********
**
*******";
 cout<<"\nbook id =
"<<id;
 cout<<"\nbook name =
"<<name;
 cout<<"\nAuthor name
= "<<author;
 cout<<"\npublication =
"<<pub;
 }
 static void
no_of_book()
 {
 cout<<"\nNumber of
book = "<<cnt;
 }
};
int book::cnt;
void main()
{
 clrscr();
 book b[20];int n;
 cout<<"\nEnter no f
Books : ";
 cin>>n;
 for(int i=0;i<n;i++)
 b[i].getdata();
 cout<<"\n Book
Information are : \n \n";
 for( i=0;i<n;i++)
 b[i].display();
 b[i-1].no_of_book();
 getch();
}
```

Q3 is repeated

Slip no 10

Q1. . Write a C++ program to accept and display employee (e_no,e_name,e_designation) details using this pointers

```
#include <iostream>
using namespace std;
class Employee {
public:
int id; //data member
(also instance variable)
string name; //data
member(also instance
variable)
float salary;
Employee(int id,
string name, float
salary)
{
this->id = id;
this->name = name;
this->salary = salary;
}
void display()
{
cout<<id<<"
"<<name<<"
"<<salary<<endl;
}
};
```

19. int main(void) {
20.

Q2. Is a repeated

Q3. Write a C++ program to read the contents of a text file. Count and display number of characters, w ds and lines from a file. Find the number of occurrences of a given w d present in a file.

```
#include<iostream>
#include<fstream>
#include<string.h>
#include<cstdlib>
using namespace std;
int main()
{
 int noc=0,now=0,nol=0;
 FILE *fr;
 char fname[20],ch;
 cout<<"\n Enter Source
File Name : ";
 gets(fname);
 fr=fopen(fname,"r");
 if(fr==NULL)
 {
 cout<<"\n Invalid File
Name. \n No such File
or Directory ";
 exit(0);
 }
 ch=fgetc(fr);
 while(ch!=EOF)
 {
 if(ch!=' ' && ch!='\n')
 noc++;
 if(ch==' ')
 now++;
 if(ch=='\n')
 {
 nol++;
 now++;
 }
 ch=fgetc(fr);
 }
 fclose(fr);
 cout<<" --------------------
-----------------";
 cout<<"\n Total No. of
Characters : "<<noc;
 cout<<"\n Total No. of
Words : "<<now;
 cout<<"\n Total No. of
Lines : "<<nol;
 return 0;
}
```

Slip no 11

Q.1) . Write a C++ Program to prompt the user to input 3 integer values and print these values inf ward and reve

```
#include #include int
main() { int a,b,c;
printf("enter a ,b,c");
scanf("%d%d%d",&a,&b
,&c); printf("the
forward
order:%d,%d,%d",a,b,c);
printf("the reverse
order:%d%d%d",c,b,a);
getch(); return 0; }
```

Q2. Create a class f different departments in a college containing data members as Dept_Id, Dept_Name, Establishment_year, No_of_Faculty, No_of_students. Write a C++ program with following member function:To display department details of aspecific Department.

```
#include<iostream.h>
#include<conio.h>
#include<fstream.h>
class dept
{
int did
char dname[20];
char hod[15];
int nos;
public:void accept()
{
cout<<"enter the dept id";
cin>>did;
cout<<"enter the dept name";
cin>>dname;
cout<<"enter the hod";
cin>>hod;
cout<<"enter the no of staff";
cin>>nos;
}
void display()
{
cout<<"the dept id is-"<<did;
 cout<<"the dept name is-"<<dname;
 cout<<"the hod is-"<<hod;
 cout<<" the no of staff is-"<<nos;
 }
}
void main()
{
dept d[5];
int n,i;
clrscr();
fstrean file;
file.open("dept.txt",ios::in|ios::out);
cout<<"enter the no of record you want -";
cin>>n;
for(i=0;i<n;i++)
 {
d[i].accept();
file.write((char*)&d[i],sizeof(d[i]));
}
cout<<"\ndetails od department from the file-";
for(i=0;i<n;i++)
 {
file.read((char*)&d[i],sizeof(d[i]));
d[i].display();
}
file.close();
getch();
}
</n;i++)
</n;i++)
</nos;
```

```
</hod;
</dname;
</did;
```

Q3. Write a program to create a class Person which contains data members as P_name, P_City, P_Contact_no. Write the member functions to accept and display the details of 5 Persons

```
#include<iostream.h>
#include<conio.h>
#include<iomanip.h>
//manipulator
class person
{
 char
pname[10],city[10];
//pname=person name ,
no=ph no
 int no;
 public:
 void accept()
 {
 cout<<"Enter person
name: ";
 cin>>pname;
 cout<<"Enter person
city: ";
 cin>>city;
 cout<<"Enter phone
number: ";
 cin>>no;
 }
 void disp()
 {
 cout<<"\nPerson name:
"<<pname;
 cout<<"\nPerson city:
"<<city;
 cout.width(10);
 cout.fill('*');
 cout.right;
 cout<<"\nperson
phone number:
"<<setw(10)<<no;
 }
};
int main()
{
 person p; //creating
instance of class person
 p.accept(); //calling
member functions
 p.disp();
 getch();
 return(0);
}
```

Slip 12

Q.1. Write a C++ Program to compute the sum of specified number of prime num

```
#include <iostream>
using namespace std;
bool isPrime(int n){
 for(int i = 2; i < n/2;
i++){
 if(n%i == 0){
 return false;
 }
 }
return true;
}
int findPrimeSum(int n){
 int sumVal = 0;
 for(float i = 2; i <= n;
i++){
 if(isPrime(i))
 sumVal += i;
 }
return sumVal;
}
int main(){
 int n = 15;
 cout<<"The sum of
prime number between
1 to "<<n<<" is
"<<findPrimeSum(n);
 return 0;
}
```

Q2. Implement multiple and hierarchical inheritance. The class All Rounder derives inf mation from both Bowler and Batsman classes which in turn derive inf mation fromtheclass Cricketer. Define all 4 classes and write a program to do the following: - Accept the details of n objects. - Display the details of n objects. - Display the object having highest runs

```
#include<iostream>

using namespace std;

class Cricketer

{

 protected:

 char name[20];

};

class Bowler:public Cricketer

{

 public:

 void accept()

 {

 cout<<"\n\n Enter Bowler name: ";

 cin>>name;

 }

 void display()

 {

 cout<<"\n\n Bowler : "<<name;

 }

};

class Batsman:public Cricketer

{

 public:

 void accept()

 {

 cout<<"\n\n Enter Batsman name:
";

 cin>>name;

 }

 void display()
 {
 cout<<"\n\n Batsman : "<<name;
 }
};
class Allrounder:public Bowler,public Batsman
{
 char name[10];
 public:
 void accept()
 {
 Bowler::accept();
 Batsman::accept();
 cout<<"\n\n Enter Allrounder name: ";
 cin>>name;
 }
 void display()
 {
 Bowler::display();
 Batsman::display();
 cout<<"\n\n Allrounder : "<<name;
 }
};
int main()
{
 Allrounder a;
 a.accept();
 a.display();
 return 0;
}
```

Q3.. Write a class Complex (real, img) along with appropriate construct s. Also write appropriate functions to overload ‘+’ and ‘-’

```
#include<iostream>
using namespace std;
class Complex
{
 private:
 float real,img;
 public:
 Complex()
 {
 real=0;
 img=0;
 }
 void accept()
 {
 cout<<"Enter the complex number:"<<"\n";
 cout<<"Real:";
 cin>>real;
 cout<<"Imaginary:";
 cin>>img;
 }
 void display()
 {
```

```
 cout<<"complex
number is:";

cout<<real<<"+"<<img<
<"i"<<"\n";
 }
 Complex(float a,float b)
 {
 real=a;
 img=b;
 }
 friend Complex
operator +(Complex
c1,Complex c2)
 {
 c1.real=c1.real+c2.real;
 c1.img=c1.img+c2.img;
 return c1;
 }
 friend Complex
operator -(Complex
c1,Complex c2)
 {
 c1.real=c1.real-c2.real;
 c1.img=c1.img-c2.img;
 return c1;
 }
 };
int main()
{
 int ch;
 Complex c3; //default
constructor
 Complex c4(4,5);
//parameterized
constructor
 Complex c5;
 c5.accept();
 cout<<"1st";
 c4.display();
 cout<<"\n";
 cout<<"2nd";
 c5.display();
 cout<<"\n";
 do
 {
 cout<<"\n"<<"Enter
your choice:";

cout<<"1.Addition"<<"\
n"<<"2.Substraction"<<
"\n";
 cin>>ch;
 switch(ch)
 {
 case 1:
cout<<"Addition:";
//c3=c4+c5;
c3=operator+(c4,c5);
c3.display();
cout<<"\n";
break;
 case 2:
cout<<"Substraction:";
// c3=c4-c5;
c3=operator-(c4,c5);
c3.display();
cout<<"\n";
break;

 default:
cout<<"EXIT";
 }
 }while(ch<=2);
 return 0;
}
```

Slip no 13

Full set is repeated

Slip No 14

Q1Write a C++ Program to s t an array of numbers in descending

C++ Program To Sort An Array In Descending Order

```
#include <iostream>

#include <algorithm>

using namespace std;

const int ARRAY_SIZE = 10;

int main() {

  // Create an array of integers

  int arr[ARRAY_SIZE] = {3, 7, 1, 5, 2, 8, 4, 6, 9, 0};


  // Print the unsorted array

  cout << "Original array: ";

  for (int i = 0; i < ARRAY_SIZE; i++) {

    cout << arr[i] << " ";

  }

  cout << endl;

  // Sort the array in descending order

  sort(arr, arr + ARRAY_SIZE, greater<int>());



  // Print the sorted array

  cout << "Sorted array: ";

  for (int i = 0; i < ARRAY_SIZE; i++) {

    cout << arr[i] << " ";

  }

  cout << endl;

  return 0;

}
```

Q2 & Q3 is repeated

Slip 15
Full set is repeated

slip 16
Full Set is repeated

Slip 17
Full Set is repeated

Slip 18
Full set is repeated

Slip 19
Full Set Is Repeated

Slip 20
Full Set is Repeated

Q3.Create a class f different departments in a college containing data members as Dept_Id, Dept_Name, Establishment_year, No_of_Faculty, No_of_students. Write a C++ program with following member function: To display department details of a specific Departme

```
BufferedReader(new
InputStreamReader(Syst
em.in));
          ch =
Integer.parseInt(br.readLine());

          switch (ch) {

case 1:


System.out.println("Enter Student
Number: ");
               rno =
Integer.parseInt(br.readLine());
System.out.println("Enter Student
Name: ");

               String name =
br.readLine();
System.out.println("Enter
Percentage: ");

               int per =
Integer.parseInt(br.readLine());


               String sql = "insert into
Student values(?,?,?)";

               PreparedStatement p =
con.prepareStatement(sql);

               p.setInt(1, rno);

               p.setString(2, name);

               p.setInt(3, per);

               p.executeUpdate();


System.out.println("Record Added");


break;

case 2:

               state =
con.createStatement();

               sql = "select * from
Student";

               rs =
state.executeQuery(sql);
```

```
                    while (rs.next()) {
System.out.println("\n");

System.out.print("\t"
                              + rs.getInt(1));

System.out.print("\t"
                              +
rs.getString(2));

System.out.print("\t"
                              + rs.getInt(3));
                    }
break;
                  case                3:
System.exit(0);
default:

System.out.println("Invalid Choice");
                    break;
}
          } while (ch != 6);
      } catch (Exception e) {
          System.out.println(e);
      }  } }
```