SRI BHARATHI ARTS AND SCIENCE COLLEGE FOR WOMEN

PROGRAMMING IN C++ 16SCCCS2

UNIT-1

1. Write the principal advantages of object oriented programming?

   1. Through inheritance, we can eliminate reductant code and extend the use of existing classes.

   2. It is possible to have multiple instance of an object to co-exist without any interference.

   3. It is possible to map objects in the problem domain to those in the program.

2. What is meant by tokens? And list the tokens in C++.

   In a passage of text, individual words s punctuation marks called

   tokens. The smallest individual unit in a program are known as tokens.

   C++ has be following tokens

   1. Keyboard

   2. Identifier

   3. String

   4. Operator

   5. Constant

3. Distinguish between object and classes

Classes	Object
1. Classes is similar to container where we can keep collection of properties.	1. Object is the instance of classes.
2. In other word it can be said that class consists of collection of properties.	2. Object is used to include the member of the classes.
3. Class is a user defined data type Ex: Car	3. Object is a user defined data type Ex: Key

4. What is inline function?

   To eliminate the cost of calls to small function, C++ proposes a new feature called inline function.

An inline function is a function that is expanded inline when it is invoked.

inlinefunction -header

{

function body

}

5. List few areas for applications of object oriented program.

1. Real time system
2. Simulation and modelling
3. Hypertext and Hyper media
4. OAM / CAD system
5. Office automatic system
6. Artificial intelligence
7. Neutral networks and parallel programming.

Unit-2

1.What is meant by constructors and list serious type of constructors?

A constructor is a special member function whose task is to initialize the object of its class. It is special because its name is the same as the class name. The constructor is invoked whenever an object of its associated class is created.

Type of constructor:-

1. Default constructor

2. Parameterized constructor

3. Copy constructor

4. Conversion constructor

2. What is meant by destructor? Give eg.

A destructor, as the name implies is used to destroy the object that have been created by a constructor. Like a constructor, the destructor is a member function whose name is the same as the class name but it proceed by attitude.

Example: ~ integer () {}

3. Write a program to overload unary operator?

```
# include < iostream.h>
{
X= -X;
Y= -Y; int
main ()
{
Space s,
S,get data (10,-20,30);
Cout<<'' s");
s.display();
```

```
-s;
Cout<"-s";
s. display ();
return 0 ;
}
```

Output:-

S: X=10 Y=-20 Z=30

-S:X=-10 Y=20 Z=-30

4. What is a parameterized constructor?

Parameterized is the passing arguments to the constructor function when the object are created. The constructor that can take arguments are called parameterized constructor.

5. What is static member function?

1. A member function that is declared static

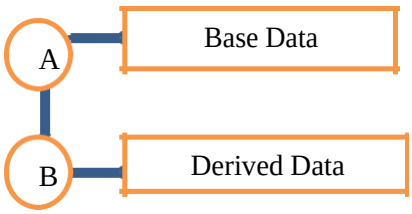
2. A static function can have access to only other static member(functions or variables) declared in same class name.

Syntax:- class – name :: function – name:

Unit-3

1.What does inheritance mean in C++?

Inheritance is the process of creating a from an existing class



Inheritance leads to the concept of reusability which means the feature of base class can modifying and rewriting it.

2. Define their pointer?

C++ used a unique keyboard called their to invoke a member function.

A max will set the pointer their address of the objects.

Example:-

A=123;

Their → a = 1 2 3

return 0;

3. Distinguish static and dynamic binding?

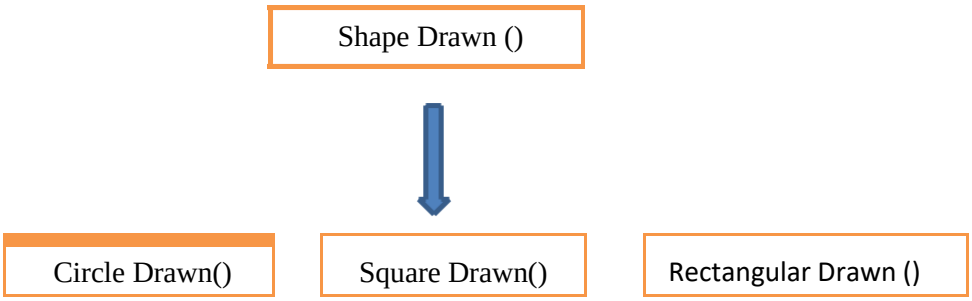
Static binding	Dynamic binding
1. In static binding the function definition and function call are linked during compile time.	Dynamic binding happen at the run time.
2. In static binding the function definition and function call are linked during compile time.	In dynamic binding the function calls are not resolved until runtime so they are not bound until runtime.
3. Static binding can be achieved curing the normal function calls function overloading and operator overloading.	Dynamic binding can be achieved using the virtual function.

4. What is polymorphism:-

Polymorphism means it has the ability to more than one form

*Poly – more than one

*Morphism – different form



5. What is virtual function?

*We are the same function name in both the base and derived classes. The function in base class is declared as virtual using the keyword virtual.

* We must access virtual functions through the use of a pointer declared as a pointer to the base class.

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Unit-4

1.What is meant by file input / output streams?

Input stream:

If the direction of flow of objects of bytes is from the device.

Eg:- Keyboard to the main memory then this process is called input

Output stream:

If the direction of flow of bytes is opposite from main memory to device (display screen) then this process is called output.

2. Write a program to copy a content of file to another

```
file. #include < iostream.h>
using namespace std;
int  main ()
{
fstream file ;
ifstream ifile (“file .text” , ios:: in );
ofstream file (“ file2.text’’,ios::in);
if (“ file is open() )
cout << “file not found’’;
}
else
{
of file << ifile. rd buff ();
{
String word
file.open (“file 2. text’’):
while (file >>word)
{
cout <<  word< “ ” ;
}
return 0 ;
}
```

Output:-

geeks for geeks

3. List files mode parameters?

Parameter	Meaning
ios :: app	Append to end of file
ios:: ate	Go to end of file on opening
ios ::binary	Binary file
ios::in	Opening file for reading only
ios::no create	opening files if the file does not exist
ios::none place	Open fails if the file already exist
ios:: out	Open file for writing only
ios:: turn c	Delete the contents of the file if it exists.

4. What is the use of template? Write general format of class template?

A template can be used to create a family of class or function. For eg a class template for an array class would enable us to create arrays of various data type such as int array and float array.

General format:-

Template < class type > ret. type fun – name (parameter list)

\\ body of function

}

5.What is exception?

We often come access some peculiar problem other than logic or syntax errors. They are known as exceptions. Exceptions are runtime or unusual conditions that a program may encounter which executing. Anomalies might include conditions such as division by zero, access to an array outside of its bounds or running out of memory or disk space.

Unit-5

1.List three types of containers?

1. Sequence container – vector, dequeue, list
2. Associative container – Set, multiset, map, multimap
3. Derived container – stock, priority- queue.

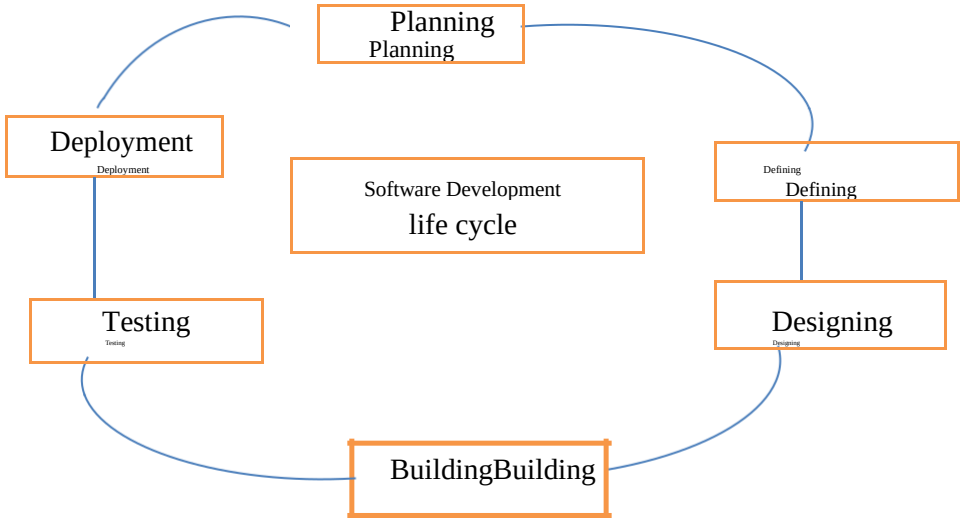
2.What is string class?

* The string class is very large included many constructor, member function and operators *For using the string class, we must include < string > in our program

3.Write commonly used in string constructors?

Constructors	Usage
String (); String (const char str); String (const string str);	For create an employ empty string For creating a string object form a null – terminated string For creating a string object from other string object.

4.Draw the classic software development life cycle?



5.Write three most popular container classes and it usage?

Three most popular container classes namely

1.Vector

2.List

3.Map

Vector:-

Vector stores the elements in contiguous memory location and enable direct access to any element using the subscript operator ()

List:-

List support a bidirectional, linear list provides a efficient implementation for deletion and insertion operation.

Help:-

A map is a sequence of (key value) pairs where a single is associated with each unique key.