**SUBJECT..... Computer Applications**

**CLASS....... 10**

**TOPIC....... Library Classes**

As you know that a class created by the user is known as user defined class. There are some classes available within the java system in the JAVA Development Kit.. JDK.. which provides effective support to the programmers to support the programming logic. These classes are called Library Classes.

The major component of JDK 1.5 are Java Class Library.. JCL.. that contains various packages. Some important packages frequently used in a java are java.io, java.util, java. math, java.net etc.

To include a package in our program the keyword "import" is used.

Example

 import java.io;

The package java. lang is imported by default to any Java program.

A primitive data type is created by the system developer. example int, float etc.

A composite data type are a set of primitive data types defined by the user. example array, class etc.

Wrapper class is a class that contains the primitive data types. It is found in java. lang package. We need a wrapper class to convert a string data into other primitive types and vice versa.

Now, let us understand what a character is.

A character is defined as a letter, a digit, or any special symbol used within single quote.

for example 'A', 'a', '2', '&' etc. There are 256 ASCII characters but only 128 characters are used in a computer. All 128 characters are not available on the keyboard because the keyboard should be handy and comfortable for the users.

The ASCII code for first character is 0 whereas for last character is 127.

The ASCII code for characters...

 0 - 9 are 48 to 57

A - Z are 65 to 90

a - z are 97 to 122


To assign a character

char ch = 'a';

char ch1 = '3';


To input a character using Scanner class...

first we need to import the package java. util in our program. Then, the scanner object is created..

 Scanner in =new Scanner (System.in);

After that the character is input by..

 char ch  = in. next(). charAt(0);


Now let us deal with character oriented functions.

The Character wrapper class contains the character data types. Some functions to manipulate the character data types are...

boolean p = Character. isLetter('c') ;

Here, p will return true since 'c' is a  character.

Another example..

boolean p = Character.isLetter ('6') ;

Here, p will return false since '6' is not a letter.

Similarly another functions are...

Character.isDigit( );

Character.isLetterorDigit( );

Character.isWhiteSpace( );

All these functions returns either true or false depending on the argument.

Next function is

boolean p = Character. isUpperCase('A') ;

Here, p will return true since 'A' is in capital letter.

Similarly,

boolean p = Character. isLowerCase ('A') ;

Here, p will return false since    'A' is not given in lower case letter.

Next set of functions are..

Character. toUpperCase( ) and

Character. toLowerCase( )

These functions return a character data type either in uppercase or lowercase character. If a number or a special character is given as argument, it will return the same given character.

Next topic is autoboxing and unboxing.

Autoboxing is the automatic conversion of primitive data type into an object of equivalent wrapper class.

Example...

Integer val = new Integer(26);

Here, the integer type data 26 is converted into an object val of Integer wrapper class.

We need autoboxing....

1. to pass a primitive data to a function that uses a wrapper object as function argument

2. To add a primitive data in the list of array elements.


Unboxing is the opposite of autoboxing. It converts an object of wrapper class into primitive data types.