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File

```
package com.hdfc.file;

import java.io.*;
import java.util.Scanner;


/**
 *
 *   /  looks like F Forward slash
 *  \ looks like B Backword slash
 *  > look like g greate than
 *  < look like L less than
 *
 *  windows :  backword slash \\
 *  unix/linux: forward slash /
 */


//https://docs.oracle.com/javase/8/docs/api/java/io/File.html
public class FileTest {

    public static void main(String[] args) throws IOException {

        //parent pathname string and a child pathname string.
        //"C:\\Users\\sutha\\Desktop\\test" is directory
        //"Ravi2.txt" is file name

        //or
        // C:\Users\sutha\Desktop parent path
        // \test\Ravi2.txt is child path

        //File file = new File("C:\\Users\\sutha", "\\Desktop\\test\\Ravi2.txt");
        //System.out.println(file.createNewFile());
        //file.mkdir();
        //System.out.println(file.exists());//true?


        //File reprent a path for a file name
        //File file = new File("C:\\Users\\sutha\\Desktop\\test\\MyFolder110\\MyFolder120\\MyFolder130");
       // System.out.println(file.exists());
        //System.out.println(file.mkdirs()); //mkdir for create folder
        //mkdirs to create nexted folders



        //unix /Linux
        //read write execute
        /*file.canRead(); //to check if file is readable or not?
        file.canWrite();//to check if file is writable or not?
        file.canExecute();//to check if file is executable or not?

        if(true){//admin
            file.setReadable(true);
            file.setWritable(true);
            file.setExecutable(true);
        }else{
            file.setReadable(true);
            file.setWritable(false); //not writable
            file.setExecutable(false); //.sh non executable
        }*/

        //An abstract representation of file and directory pathnames.
       // File file = new File("TestJava.txt"); //a file name
```

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```
        // File file2 = new File("C:\\Users\\sutha");//path
        // file.createNewFile();
       //  System.out.println(file.getAbsolutePath());
       //  System.out.println(file.getCanonicalPath());


       //  String hello ="  \\Mayank\\  "; // "  \"Mayank\"  "
       //  System.out.println(hello);



         // Stream based-Stream (Input-read, Output-write)
         //Character based (text based)- Reader/Writer (Input-read, Output-write)

         //PDF pdf lib
         //Excel apache poi


         /*File  dir = new File("C:\\Users\\sutha\\Desktop\\test\\UserFolder\\Temp");
         System.out.println(dir.exists());//false
         if(!dir.exists()){
             dir.mkdirs();//nested folder will be created.
         }
         System.out.println(dir.exists());//true*/


     /*   File dir = new File("C:\\Users\\sutha\\Desktop\\test");
         String[] list = dir.list();
         for(String fileOrDirectory: list){
             System.out.println(fileOrDirectory);
         }
         System.out.println(list.length);//all files in folder
*/

         File dir = new File("C:\\Users\\sutha\\Desktop\\test");
         String[] list = dir.list(new FilenameFilter() {
             @Override
             public boolean accept(File dir, String name) {
                 return name.contains(".class");//to get files having .class extension
             }
         });
         for(String fileOrDirectory: list){
             System.err.println(fileOrDirectory);
         }
         System.err.println(list.length);//all files count in folder



    }
}
```

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PriorityQueue – poll in reverse number order, (highest number first poll)

```
package com.hdfc.operator;


//Queue - FIFO
//first in first out

import com.hdfc.collections.User;

import java.util.Comparator;
import java.util.Date;
import java.util.List;
import java.util.PriorityQueue;

class UserIdComparator implements Comparator<User> {

    @Override
    public int compare(User o1, User o2) {
        if (o1.getId() == o2.getId()) {
            return 0;
        } else if (o1.getId() < o2.getId()) {
            return 1;
        } else {
            return +1;
        }
    }
}

//5 2 1 3 6
//1 2 3 4 5
public class PriorityQueueTest {
    public static void main(String[] args) {

        //User class should implements Comparable interface
        // If User class is from library then? Comparator interface
        PriorityQueue<User> priorityQueue = new PriorityQueue<>(new UserIdComparator());
        priorityQueue.add(new User(5, "F", List.of("F"), new Date()));
        priorityQueue.add(new User(3, "C", List.of("C"), new Date()));
        priorityQueue.add(new User(1, "A", List.of("A"), new Date()));
        priorityQueue.add(new User(2, "B", List.of("B"), new Date()));

        System.out.println(priorityQueue.size());
        System.out.println(priorityQueue.poll()); //poll get and remove
        System.out.println(priorityQueue.size());

        System.out.println(priorityQueue.peek()); //just check the first elemetn in queue
        System.out.println(priorityQueue.size());

      /*  PriorityQueue<Integer> priorityQueue = new PriorityQueue<>(new NumberCompartor());
        priorityQueue.add(5);
        priorityQueue.add(2);
        priorityQueue.add(1);
        priorityQueue.add(3);
        priorityQueue.add(6);

        System.out.println(priorityQueue.poll());
        System.out.println(priorityQueue.poll());
        System.out.println(priorityQueue.poll());
        System.out.println(priorityQueue.poll());
        System.out.println(priorityQueue.poll());*/

    }
}

class NumberCompartor implements Comparator<Integer>{
    @Override
```

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```
    public int compare(Integer o1, Integer o2) {
        return - o1.compareTo(o2);
    }
}
```

FileWriter and FileReader

```
package com.hdfc.file;

import java.io.File;
import java.io.FileReader;
import java.io.FileWriter;
import java.io.IOException;

public class TestFile {


    public static void main(String[] args) throws IOException {


       /* File file = new File("abc.txt");
        FileWriter fw = new FileWriter(file); // new file will be created. override
        FileWriter fw2= new FileWriter("abc.txt");// new file will be created. override

        FileWriter fw3 = new FileWriter("abc.txt",true); // append to existing file
        FileWriter fw4= new FileWriter(file, true);// append to existing file


        fw4.write("Nikit");*/



        File file = new File("abc.txt");
        FileWriter fw = new FileWriter(file);
        fw.write("100");
        fw.write('\n'); //new line
        fw.write(100);//https://www.cs.cmu.edu/~pattis/15-1XX/common/handouts/ascii.html
        fw.write('\n'); //new line
        fw.write('c');
        fw.flush();
        fw.close();

        FileReader fr = new FileReader(file);
        int character ;
        while( (character= fr.read()) !=-1) {
            System.out.print((char)character);
        }
        fr.close();


    }
}
```

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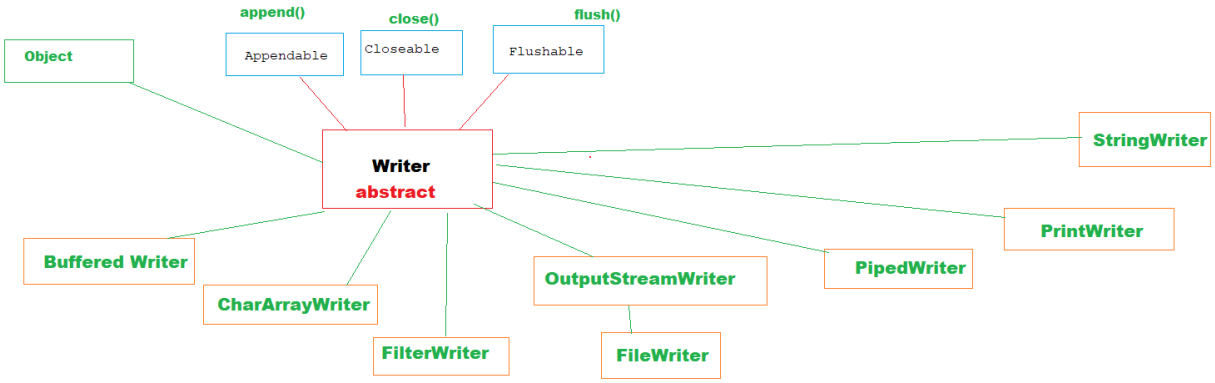
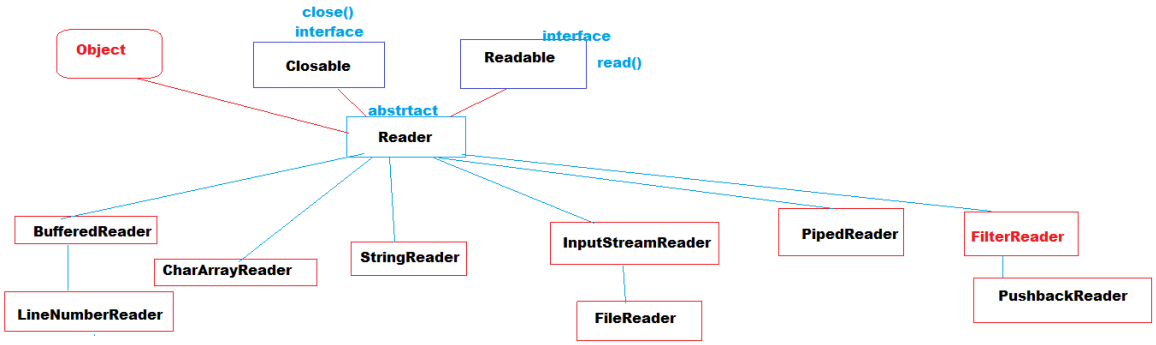
- File IO, IO Stream, java.i.o, java io all are same,
- Java.io package available from java 1.0 version
- From java 4 new package java.nio is introduced
- Java.nio is not a replacement of java.io package, both performing in different ways
- Java.io package worked on Stream based
- Java.nio on buffered based

- Java.io has 2 categories
- Part -1 for character based, text based, we used FileReader, FileWriter, BufferedReader, Bufered Writer, etc
- Part -2 for Byte Stream, for video, audio, images, OutputStream inputStream related classes
- Output is to write data on sink(file, destionation)
- Input is for read the data from file, source system.





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FileReader and FileWriter work on char to char basis.

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        fw4.write("Nikit");*/



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        fw.write('\n'); //new line
        fw.write('c');
        fw.flush();
        fw.close();

        FileReader fr = new FileReader(file);
        int character ;
        while( (character= fr.read()) !=-1) {
            System.out.print((char)character);
        }
        fr.close();


    }
}
```