<u>ASSINGMENT</u>

PROGRAMMING IN JAVA



Submitted To

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Submitted By

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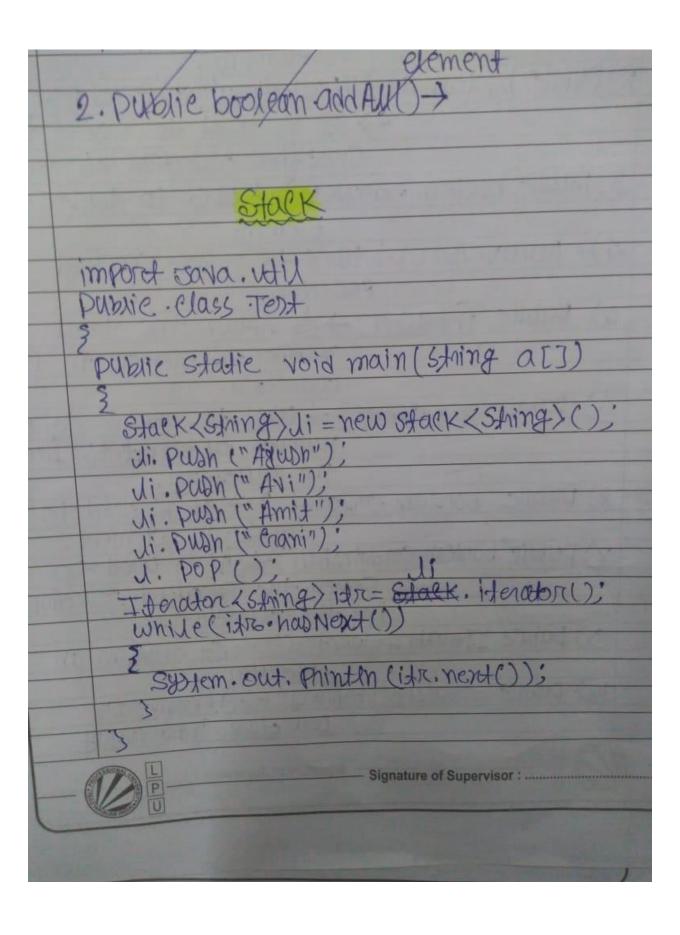
Q1. Write a Complete chapter on Collections in java which includes Definition, importance and uses.

	Collection in Java
The	collection in Java is a framework
	- Provided an architecture to Store
	manipulate the group of object.
	collections can achieve all the
	etions that you perstorm on a dat
Such	· as searching, sording, manipulati
and	· deletion.
Java	Collection means a single unit of
0626	et . Java · Collection framework · Provi
man	+ interfaces (set, list, Queue, Deque)
classe	ed (AnnayList, Necton, Linkedlist, Priority
Que	re, Habiset, Linked Habiset, Treeset).
1	
⇒ W'	nat is collection in Java?
	A collection represents a single uni-
07 (object, i.e, a group.
-> 1111	nat is a framework in Java?
7001	OST provides readmade architecture.
	OST PROVI TEPRESENTS a Set of
	classes and intenfaces.
	Ost is optional.
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Methods
U publice boodean add () -> 34 is used to import an
element.
as Dubie boolean and Allicollection I Perpetted Exc)
-) At is wed to move the
specified collection elements.
3) Public boolean remove () -> word to delete an
element.
4) " remove All () -> Wed to remove specified
collection.
5) Public intsize() -> If neturns the total
number at element in the
collection.
6) Public void Clear() -> Wed to nemove total
number of elements from
the collection.
7) Dublic boolean contains 2 -> 3+ is used to
Search an element.
8) Public boolean Condains AUC) -> It is wed to
Search the specified collection in the collection.
9) Public Iterators iterators > It returns an
idencidor.
10) Public Object [] to Amay () -> It converts
collection into amost.
The condition of the co
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Date	interest of the energy
	11) Public boolean is Empty) -> to enecks if collection is empty.
	IL (DIRECTION DETINAL)
	12) Public boalean equals () -> 31 matches
	talo conceilor.
	13) public int hash code () -> st returns the
	nash care hamber of the
	collection.
	List Interface
	To instantiate the list interface:
	i) List / duta-type>dist = new Amatlist()
-	i) List < Nata-dape > Jist 2 = new Linked List ()
	111) List Lotata- + & pexist 3 = new vecton()
	N) List LNOVa-type list4 = new Stack()
	Ex:- import Java. util.*;
	class Test
	3
100	public Static void main (Staing all)
	The same of the sa
	(X grints) tell years were = tell (Ening X);
	wist add (" RaJ");
1	lint. add (" #) Jal);
-	·Iderators.ide = uist: iderator ():
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Date.	While (itro. has Nent())
	3
	System. out. Printin (idr. nest()).
	3
	3
	3
	Linkedlist
	import Java. util.*;
	Public class Test.
	3
	Public Static void main (String al)
	The country of the co
	Linked List < String > list = new Linked List < String > ();
	Jist. add ("RaJ");
-	wist. and (" Roy");
	Utht. add ("AJa]");
	LinkedList Spring List.
	Iteratoral Shing > idro = list. iterator ();
	While (itr. hasNent())
	3
	System. ocut.pnintln(itr.nent());
	>
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Nector	
import Java. Wil. 4;	
Public class Test	
2	101.000 0571
Public Static void main	(SANING OCI)
2 alcohor (ching) to	and algolate to laim (1) ().
N. add (., 809.);	ew Neetors/string >();
V. add C"Amit");	
V. add (" Raj");	
1. add ("Ashis"):	
I tenator (string) it =	V. Honator();
While (it to has Next ())	THE PART OF THE PARTY
3	10.0
System. out. Printing	*I. Mercht())
3	
	OF ITS AND THE PARTY OF THE PAR

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Queue Interface
i) Queue (String > 91 = new Priority Bueuel);
Dauenezstang som maxbeauel);
ii) Queue (String) Q2 = new Amay Deaue ();
The Residence of the Control of the
Priority Queue
import Java. Util. *;
Public class tent
Priority Queue/String; Queue = new Priority Queue
(String)
Queue · add ("Amit");
aueau. add("Roy");
queue. add ("Roran")
0110000 0000 (1) 007///
austran out printing "head." + queue. element (),
evilon out paintin ("nead." Follower elemente)),
System. out. Printly ("iterating the queue
elements:");
IJenatore ifn = queue . interator ();
while (jtrs. hasnest())
5
System. oct. printin(itro. next());
queue, remove ();
queue. Pou ();
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cord or	(IAIIIIA)	
1117	THE RESERVE OF THE PARTY OF THE	
	System. out. Printin ("affers removing foro	
BIRTH.	elements!");	
	Iterator (Shing) iter2 = queue. iterator ();	
14-50	While (if 12. has Next())	
	3	
-	System.out. println (12/2-mextc));	
	}	
3		
3	Common Donate	
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ArmayDeque	
import Java Uth : ; Public Class Test Public Static Noid main (String all) Enequestring) deque = new Amagbequestring deque add ("thini"); deque add ("thoni"); deque add ("thoni"); Jor (String Stre: deque) Esystem out Printly (Stre);	

	Page No
	Set intenface
	i) Set Locata-Abre SI = new Hashset Locatatyre () ii) Set Locata-tyre S2 = new Linked Hashset Locatatyre (); iii) Set Locata-tyre S3 = new Treeset Locatatyre X
	<u> </u>
P	public elass text Public static void main(string al) Hashset (string) set = new Hashset (string) (); Set add ("Raj"); Set add ("Raju"); Terator (string) itre=set iterator(); cunite (itr. hashext ()) E System. out. println (itr. next()); 3 1
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San Control	K. Litu. ava.		
Dublic	e class test		
3		1011.7 40	71
Publi	e Statie void	main (String at	1)
1	set (string) set	- Men) Thee IS	Lima>C);
1066	add (" Ravi")	- 11000 (11-10)	- V.
Set	· anni Rajan	THE WALES	
Set	"BOCK") bbo.) 101 HADOCH	100
T-Jen	outorc/string > i:	1())	06
3			To get
Si	them .out. Phin	Unlika. Next c	1);
3			
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Linkedt	lashset
impont Java. util.	*;
Public class test	A STATE OF THE PARTY OF THE PAR
2	
Public Static void	(main()
1	
Linked Habset < 6 this	ng>set = new linked Habiset
	(String)();
Set. and ("Raz	
set. and ["Rav	();
Set. and C'Raj	u")_"
Set. and ("Rad	00)
Iterators String>	if = Set. Idenators ();
controller has	NEXX ()
Contain out to	industite and the
Sortem, car. M	infin (idr. neuto):
	The second secon
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Date	> what is the difference between Java
=	Collection and Java collections?
	masors difference between collection
	The state of the s
	and collections is a most level interface
	of the Java Collection Framework Most of
	the classes is Java collection Framework
	inhout from this interface.
	Muedy from the manace.
	Advantages of Collection Framework
	Flowing a street the s
	> It reduces the development time and
	the burden of designers, programmers,
	and wern.
	=> code is easier to maintain because it
	provides . Wetar . data shructure and interfaces
	which reduce programming efforts.
	=> The size of the container is
	growable in nature.
	⇒ It implements high-performance of useful data structures and algorithms
	useful data structures and algorithms
-	that increase the perstarmance.
-	=> If enables saffware reuse.
1	
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	use of collection in Java
	Collections are used almost in every
	Programming language and when Java
	arrived, it also came with collection elasses.
	Collection are used in situations where dath
	is agramic . collections allow adding an
	element, electing an element and host
	of others operations. There are a number
	of collections in Java allowing to choose
	the right collection for the right contex
	you can play with data structure and
	algorithms.

Q2:- Write a program to perform union, intersection and difference of two different Array-Lists.

GIT-HUB-LINK:-

https://github.com/shykat199/java-Unioninsertion

Code:-

```
import java.util.*;
public class ArrayOfIntersectionUnion
   public static void main(String[] args) {
       System.out.println("
                                  Operations
                      Array
(union,intersection):");
   >>>>>>");
       Scanner s=new Scanner(System.in);
       System.out.print("Enter the
                              Array size
                                         of
Array1:");
       int size1=s.nextInt();
       System.out.print("Enter the Array size
                                         of
Array2:");
       int size2=s.nextInt();
       int arr1[]=new int[size1];
```

```
int arr2[]=new int[size2];
System.out.println
");
      System.out.println("Enter the Array Elements of
the Array1:");
      for(int i=0; i \le ize1; i++)
         arr1[i]=s.nextInt();
       }
           System.out.println
");
      System.out.println("Enter the Array Elements of
the Array2:");
      for(int i=0;i \le ize2;i++)
         arr2[i]=s.nextInt();
       }
       System.out.print("Array Element of Array1 after
applying remove duplicate logic: ");
      for(int i=0;i < (size1-1);i++)
       {
         for(int j=i+1;j < size1;j++)
            if(arr1[i] == arr1[j])
```

```
for(int k=j;k < (size1-1);k++)
                     arr1[k]=arr1[k+1];
                 size1=size1-1;
              }
        for(int i=0;i<size1;i++)
          System.out.print(arr1[i]+" ");
System.out.println
>>>>>>>>>>>>>>
n");
         System.out.print("\nArray Element of Array2
after applying remove duplicate logic: ");
            for(int i=0;i < (size 2-1);i++)
        {
           for(int j=i+1;j < size 2;j++)
              if(arr2[i] = arr2[j])
                 for(int k=j;k < (size2-1);k++)
                     arr2[k]=arr2[k+1];
```

```
size2=size2-1;
        for(int i=0;i \le ize2;i++)
        {
          System.out.print(arr2[i]+" ");
System.out.println
>>>>>>>>>>>>>>>
n");
        System.out.println(" ");
            System.out.println("Enter '1' for finding
the Union of given Array");
        System.out.println("Enter '2' for finding the
intersection of given Array");
        int p=s.nextInt();
        switch(p)
        case 1:
              int flag=0;
               System.out.print("Union of Two Arrays:
");
```

```
for(int i=0;i<size1;i++)
    System.out.print(arr1[i]+" ");
for(int i = 0; i \le size2; i++)
     for(int j = 0; j < size1; j++)
         if(arr2[i] != arr1[j])
              flag = 1;
          else
            flag = 0;
            break;
     if(flag == 1)
          System.out.print(arr2[i]+" ");
     }
break;
```

```
case 2:
                       System.out.println("Intersection
                                                              of
two given Array:");
                        for(int i = 0; i < size1; i++ )
                            for(int j = 0; j \le 2; j++)
                                if(arr1[i] == arr2[j])
System.out.println(arr2[j]);
                       break;
```

Out-put:-

