TESTORET

```
Among the Con No: 01 with the Con No: 01
    import Java. io. *; } ( stockmen follow this)
    import Java. util. *; = ( + mom) + more muz fri
    public class Number Priocessor &
        public static void main (string [] args) {
        String input File = "input-txtor"; sisting
        String outputfile = noutput.txt ....
                  . ethe 2507 10767
        try {
       Seamer scanner = new Scienner (new File (inputfile
       scanner use Delimiter (",");
                 ( o mo Hospital control must Except on e)
    List < Integer > numbers = new Array List <> (
  while (scannett, has Next ()) 5
         String numstr = scanner. next (), traim ();
         if (! numStr, is Empty ()) {
            numbers, add (Integets. patr seInt (numstry);
         seanner . close ();
```

PrintWriter writer = new PrintWriter (new File (outputfild) report sover brigging for (int num: numbers) } int sum = num + (mum + 1) /23 # 1110.0000 15109111 unciter. Praint (num+", "+sum+"); 37 (epol I printe) moin bior state silding System.out.printIn (processing completed, check output.tx) forc results. "); 9 catch (FileNot Found Exception e) { System. outputt In ("Ennon: Input file not found."); 3 cotch ( Number Format Exception e) {

System.out. printin ("Enrott: Invalid number format in input file ");

3 mint, () trong mone = affaur pariste 7 (1) planter internum!) Ti

Total (Total Poor selat (number)

semment, close();

## most no shallour like Anwers No: 02 12570 mode

Differences between static and final Fields and Methods
static

- 1. Belongs to the class, not instances
- 2. Sharred across all instances 3. can be accessed without an object
- 4. Resolved at compile-time Bright significant
- 5. common forz constants and utility methods

- 1. Cann't be changed after initialization
- 2. Value count be treassigned once set
- 3. cannit be overcridden in subclasses
- 4. Enforced al compile-time
- 5. Used for constants and proeventing method overni ling

when accessing a static field/methods then,

- 1. The compiler does not prevent you for accessing static field/methods via an object such !!
  - 2. However, it's not recommended because static members belong to the class, not instances
  - 3. The Java compiler issues a warning (not an ermon), suggesting the use of the class name

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Anstrer No: 3 (Change)
   importet. java. util. Scannere; " month of the material
   public class Factorion Numbers &
      provate statio final int[] factorials = new int [10];
     static &
      factorcials [0] =11; more biov sites suday
     factorials [i] = factorials [i=-1] * ing. 100 majers
             The state of the Laxue manning - proper tori
private static into sum of Factorial Of Digits (int num) &
     int sum = 0, temp = nome, morning stogge this
while (temp 40) for motitals of withing the melve
         sum+= factorials [temp: 10];
         temp/= 10;
                              Scarport Close 1;
      froturen sum;
     private static void findFactorsons (int lower, int upper)
        boolean found = false;
       fore (int = 10 were ; ix= upper; i++){
          if (i== sum OfFactorial of Digits(i)) f
```

System. out. print (i+" ");

found = true ;

if (sfound) & services System. out. print In ("No factorion, numbers found in this trange "); - Wouldhost to I day I must photo a faviore

Public static void main (string [] arrgs] ? seannen seannen = newseannen (System in);

system.out. print ("Enter the lowers bound of the range:" int lower = scanner next Int ();

System. out. print ("Enten the upper bound of the trange:") int upper = scanner. next Int (); / 27

System out print in (Factorion numbers in the range: 1); find Factorions (lowett, upper);

scannett. close ();

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good in ecolytes) such action that the print of staving the older found a false it

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#### Answer no : 04

Difference among class, local, Instance variables in Javo

## class vorciable:

- 1. Sharred accross all instances (belongs to the class)
- 2. static keyword inside a class muzi
- 3. storred in the method orrea
  - 4. Can have public private etc

# Instance vortiable:

- 1. Unique force each object (belongs to the class)
- 2. Declarred inside a class, but outside methods
- 3. storred in the heap (inside object)
- 4. Can have public, prairate etc.

#### Local varciable:

- 1. Exists only within the method/block where declare
- 2. Declared inside a method, constructor, on block
- 3. Storred in the stack
- 4. cann't have access modifiers

#### Answert: OF

Public class Annay Sum calculators & Public static int calculatesum (int []array) { ent sum = 0; fore (int num : array) & sum += num., o obeni brouksk piloto return sum; hanken lad for harring

In Car Move, public private etc public static void main (string [] arcgs) { int [] numbers = {10, 20, 30, 40, 50}; int tresult = calcutate sum (numbercs); System. out, print In (" The sum of all elements

(trin the array is " + result! 1. Can move public, pravale, etc.

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### Answer - 6 - do to to for sound and a

Access modifiers define the visibility on scope of class, methods and variables in Java los and but his believelle percentity x

Comparison

1. public - Accesible from any where

2. Private - Accesible only within the same class

3. Priotected - Accesible within the same

Package and subclasses

4. Default - Accessible only within the same Pockoge

Type of variable in Java

Java has three types of variable

1. class variables:

\* Belongs to the class rathers than an instance

\* sherred among all objects of the class

\* Memory allocated once

2. Instance voruable:

\* Defined inside a class but outside methods

\* Each object has its own copy

\* memorry allocated in the heap

3. Local Varuables:

\* Declared inside a method, constructor or block

\* Must be initialized before use

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evol mi sidoistov to part dexa has three types of variable

A class variables

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some between permitted and

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11/000 - 1005 And No: 07 MINER 28 10 x 17 10 19 19
import Java util . scanners;
Public doss Quadrate Solver 5 18 ( 21000) 11
     public static void main (strung [] args) &
Sconner scanner = new Scanner (System in):
System . out print (" Enter coefficients a, b and c: "):
    int a = seconnet . nextInt();
int b = scanner nextInt (); / 100 11 star
int c = scanner next Int ():
   double discraininant = 6*6-4*a*c;
 if (discriminant <0) {

System.out.printIn("No real root.");
  3 elso {
  double most 1 = (-b+ Math. sqrt (discriminant) 2/(2*)
 double roots = (-6- Math. squt (discraminant))/ (20# a);
```

double smallest Positive Poot = Double. MAX-VALUL;

```
if (roots >0) smallest positive Root = roots;
 if (most 2 > 0 & 8 most 2 < 9m allest positive Root
Smallest Positive Boot = root 23,9
if (smallest Positive Root = = Double, MAX, VALUE) {
System out prantin ("No positive real roots");
   System out printIn ("The smallest positive
          root is " + Smallest positive Root);
   3 10 = D= P = dest = Institutiones siduolo
```

scanner, close(); ? (6) the minimo its) \$1

scanners, close();

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6 to 1 (Chien ballio Wh) 1 4 10 mil my ha) the foot stable

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#### And No. 8 15 Of PODTO TO 10 122.07 1/4

public class characters Counters & Many property of the state

Public static void main (String[] angs) {

Scanner scanner = new Scanner (system . in);

System. oot. print ("Enter a string:);

string input = scanner nextline ();

int lettercount = 0 digit count = 0 space Count = 0;

for Charach: input to charatingy ()) &

if (charcocter uletter (ch)) & tuomoleve sigit count ++ , (endeaun) with tring

7 ase if (character.1s Digit (ch)) {

Ligit Count++;

} else if (characterius Whitespace (ch)) {

space count ++;

system.out. print In ("Letters: " + letter County

System.out. print("Digits: " + digit count);

system.out. printIn("Whitespaces: " + space count)

scan ners.close();

IT230FL # Passing an array to a function Public class Arcray Example & Static void preint Arrivay Gint [ Janna ) { fore (int num: aren) § System. out. print (num 4 " "). wite grinde po male 3" tot 3 doc. watering Bystem.out.printIn() Public static void moun (strung[] angs) ? int[] numbers = {10,20,30,40,50} System.out. print In ("Armay elements"); print Antray (numbers); 7 (NO) their er instour and 3 41 Bab F 3 Comment of the Contraction of the state of property (phoreoter) is Multer proceeding HE TO RESTORE THE WAY TO ME AND THE PROPERTY OF THE PARTY OF THE PARTY

CHELDS TOTHER FOR THE PROPERTY ON F. TOTHERS COURT - Les the control of " let this " Many the revolution : ( to out out . printtill whatespeaks " + + speak down ):

( ( ) shoto, stan prost

#### Answercedo:

Method overcriding occurs in Java when a subclass provides a specific implementation of a method that is already defined in its superclass. The overcride method in the subclass must have method overwhicing subclass a new implementation of superclass method with the same signature winamic Dynamic Mothod Dispatch: overpidden methods are called based on the actual object type of truntimer

Using (super class) = calls the super class vension

9f an overcrudden method on construction

Access Modifiers Rule: cannot make the overtituden method more nestrictive than the superi class chocked Excaptions: subclass cannot throw broad exceptions than the overtruden method in the subcla final methods: A methods declared final cannot be static method: cannot be overtruiden to that overtruide constructors: Not inhervited but can call the supericle constructors using supericles:

### static methods no enum maille some ballets

ATORST?

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1. Declarced using static keyworld

2. stated in the class momorry

3. dan be accessed using the class name

4. Belongs to the class nather than an object

5. Used fore common utuitlies like constaks

and helper methods some out it is boillow

6. Example : static int. cant; borllow showing

# Non static methodist no boss of bollon sons

1. Dectared without Static Key mored

2. storced in the of heaps memory to inque paiet

3. Requiries an instance of the class

4. Belongs to the individual objects

5. Used for intance spectic behavior

dods 6. Example int agentous and mall emilyses.

final methods: A method declosed final cannot lovis

station mother to an entitled but our call the form of the control of the control