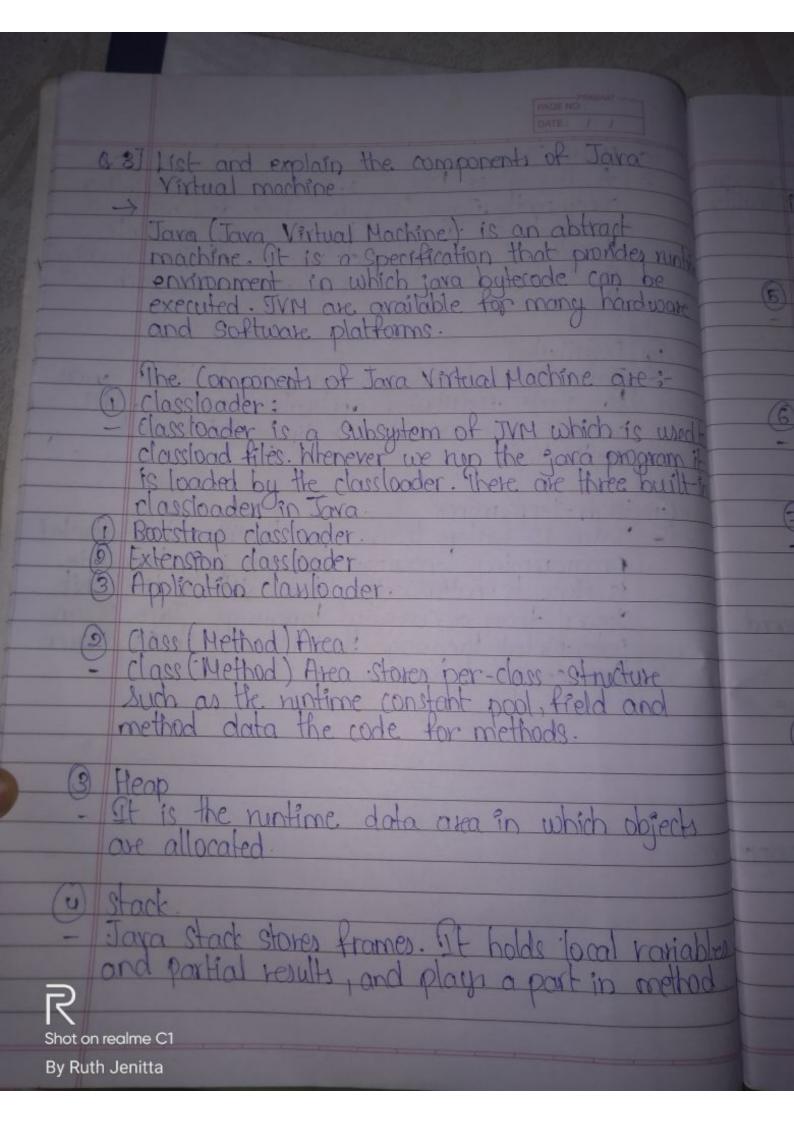
1224 Assignment - 1 0.1] Write a short note on Java Development kit The Java development kit (JDK) is a cross platformed software development environment that for developing Java-based software applications and applets of It is a - rore package used in Javo, along with the Java virtual mochine and ne JDK has a private java Virtual machine (JVM) and a few other resources necessary dor the development of a Java Application. TDK contains :--Java Runtime Environment (IRE An interpreter Londer (TAVA) ·A compiler (JAVAC) An archiver (iar) and many more The Java Runtime Environment in JDK is usually called Private Runtime because it is separated from the Regular JRE and has extra content. The Private runtime in JOK contains a JVM and all the class libraries present in the production environment, as well as additional libraries useful to developers, eq, internationalization libraries and the IDI libraries and the IDI libraries. Most popular JDKs:-Oracle JDK, OPEN JDK, Azul System Zing, Azul Sustem, IBM J9 JDK and Amazon coretto Shot on realme C1 By Ruth Jenitta

Compile and Run Java code using JOK The JDK compiler is used to convert the Java text file into an executable program The Java text segment is converted into bytecode after compilation which comes the Components of JDK Component Java compiler converts source code into iavac bute code. iava disassembler javap Documentation generator avador lava Archiver helps mapage JAR files Debugging of JAVA applets without web bur. Accept XMI schemes and generate Joine Java Mission Control · 1console Monitoring and Monagement park200 JAR compression too Utility tool to detect JAR file conflicts. IDI to Java compiler Keyfool The trustore monipulating tool. istat doemon (experimental) JVM statistic monitoring tool. ishell introduced in pro 9 Shot on realme C1 By Ruth Jenitta

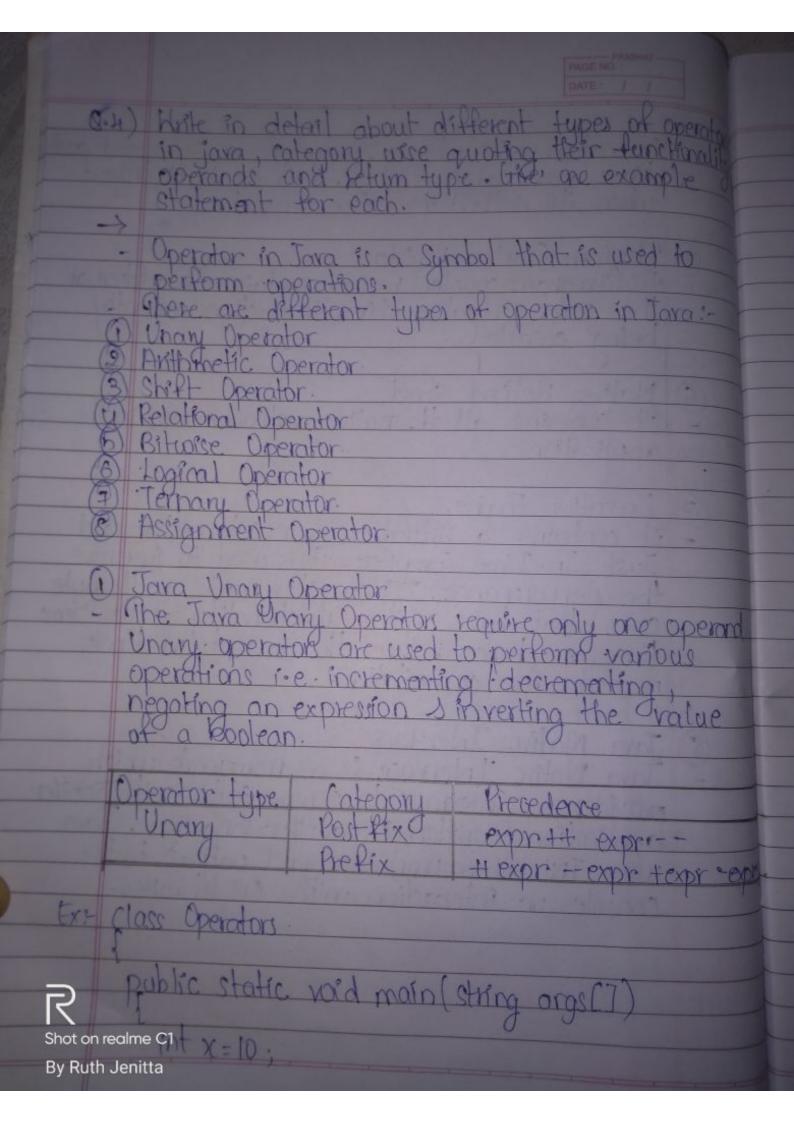
(3.2) list and explain the salient features of JAVA. The Salient features of JAVA ares-(1) Object Oriented means that the software is organize as a combination of different types of object a methodology that simplifies rules! The Basic roncepts of Dobs are ob class, inheritance, polymorphism, Abstraction errapsulation. 2) Simple Java is very easy to learn and its syntax is simple clean and favy to understand. Java has removed many complicated and ravely used features Ex-explicit-pointers, operator overloading; etc 3) Secured Java is best known for its Security. With Java we can develop virus-free systems. Java is secured because of No explicit pointer, Java programs run inside a virtual machine, Sandbox, Classboder. Butecode Verifier, Security Manager 1) Platform independent Java is platform independent because it is different from other languages like c, c+t, etc. which are compiled into platforms specific machine while zara is a write once, run anywhere language. Shot on realme C1 By Ruth Jenitta

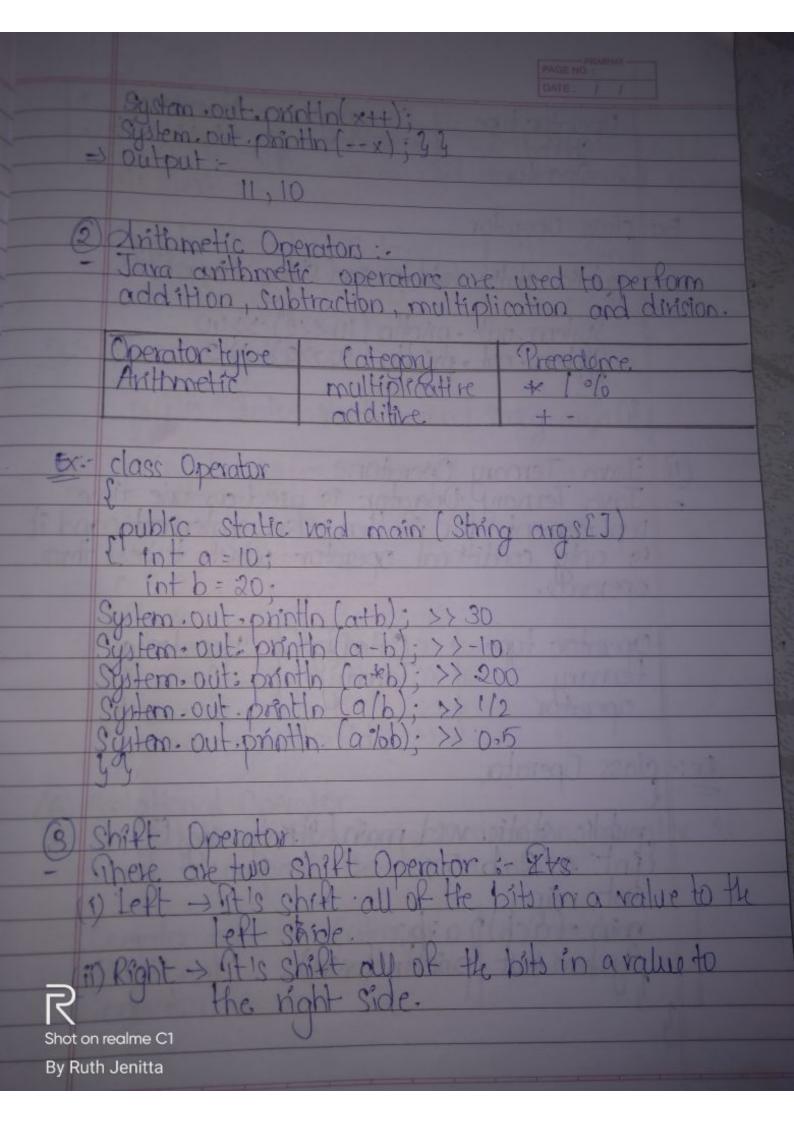
3 Robust (strong) Java is robust because: - It uses strong memory management.
- There is a lack of pointers that avoids security problems. - Java provides automatic garbage collection which hens on the Java Virtual machine to get rid of objects which are not being used by a Jara - There are exception, handling and the type checking mechanism in Java: All these points make java Robust, 6 Portable Java is portable because it facilitates you to came the Java bytecode to any platform. It doesn't require any implementation 2) Architecture, - neutra Tava is architectural neutral because there are no employentation dependent features, for ex: the Size of primitive tupes is fixed. (8) Denamic Jara is a dynamic language. It Supports the dynamic loading of classes. It means classes are loaded on domand. It also supports dunction show its notive languages ine cand ctt. Java Supports dynamic campilitation and automation memory management (garbage collection). Shot on realme C1 By Ruth Jenitta

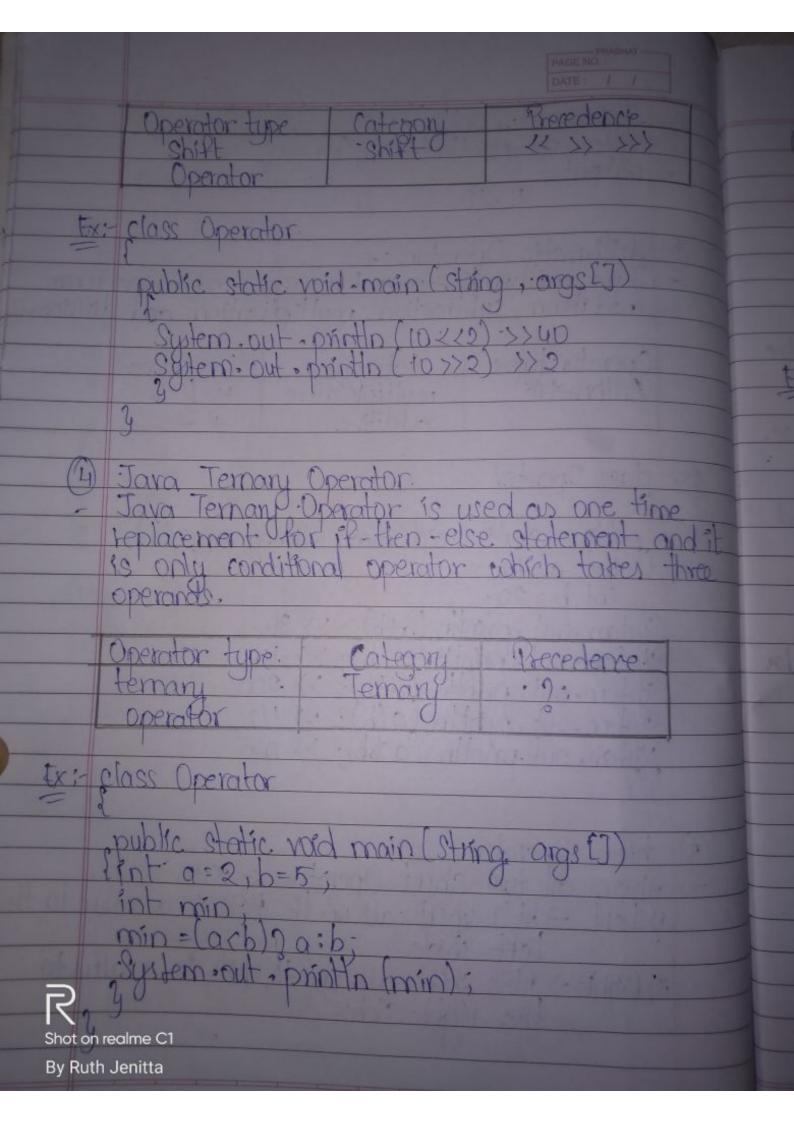
A thread is like a separate program, executing concurrently. Java Programs that deal with of many tasks at once by definning multiple distributed because it tadilitates uses refore to graffice code. It is than a compiled language Interpreted language that is why than compiled languages. Shot on realme C1 By Ruth Jenitta

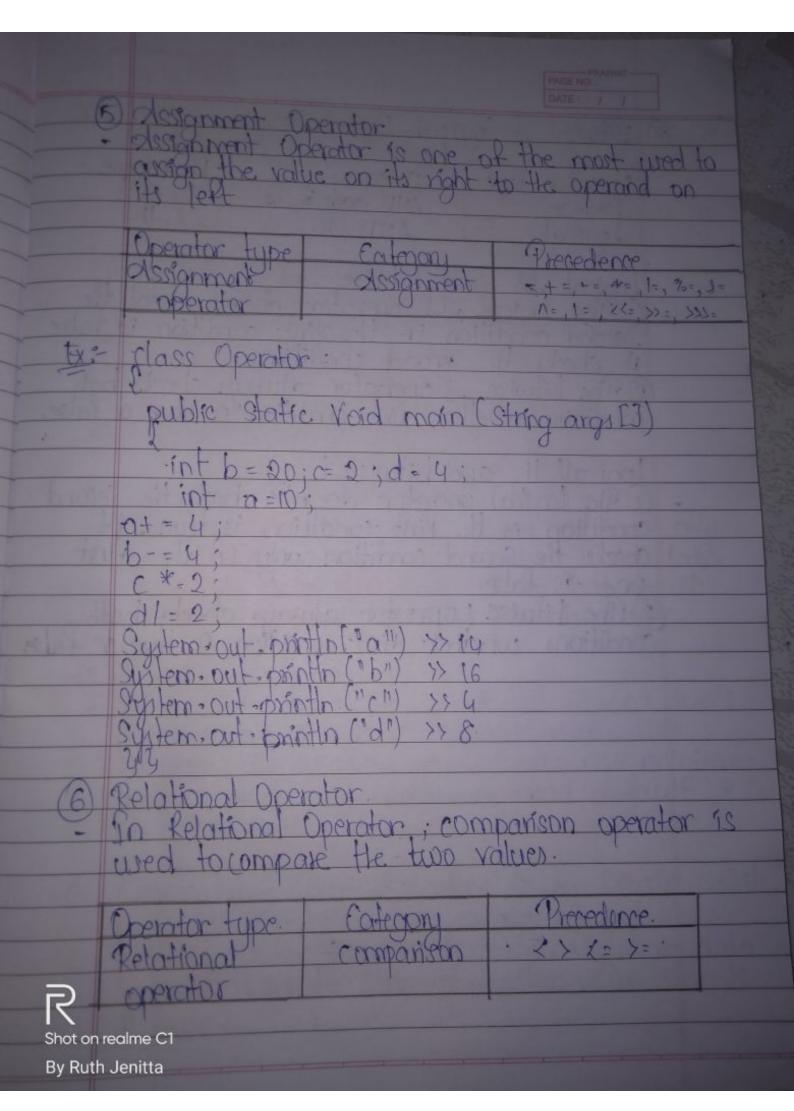


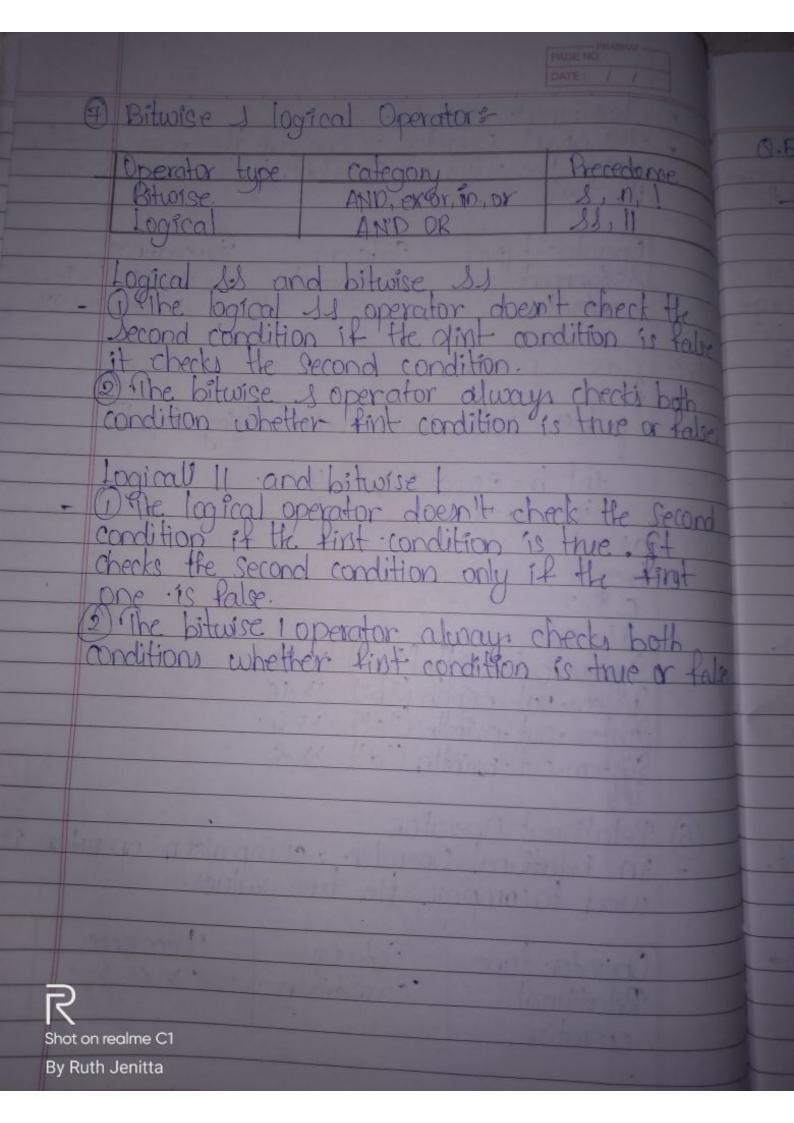
invocation and return. A new frame is created each time a method is invoked. A frame is destroyed when its method invocation completes. De Program Counter Régister contains the addien of the jara virtual machine instruction currently being executed 6 Native Method Stact. - It contains all the native meth application. a virtual provenor, interpre ime compiler. It is used commerce. JII compiles parts of the bute code that have general functionality of time, and hence reduces the amount o needed for compilation. ava Native Interface is a provides an interface to communicate with another application written in another language. wes I've framework to send comple or interaction with as like Shot on realme C1 By Ruth Jenitta











(S.5) What are the primitive data types in Java? Explain their size and range other details too. Primitive data types are the building blocks of data, manipulation. There are the 8 types of ata types they includes long dutature 1) Boolean Datatype The boolean data type is used two possible values this & Palse. used for simple flag that track tupe. se condition. The size is tripe is an . 8 bit signed trois Phileger. It's value-range lies includes - 128 minimum 127 maximum and is loye. The char datatype is a Single 16-bit character. It values range lies 65,535 inclusive. The used to store character Shot on realme C1 By Ruth Jenitta

Short data type: This data type is a 16-bit short two's complement integer. Its value in is from -32, 768 to 32, 767 (inclusive) and it Size is 2 byte 5) Int Datatype: The int datatype is a 32-bit Signed two's complement integer. (It's value to lies between 2,147, 483, 648 (-12/31) to 2,247, 483, 6 (2º31-1) inclusive The size of int datatupe in 4 bute. 6) long datatype: The long datatype is a 64-bit two complement integer. It's value-range the between -9, 223, 372, 036, 854, 775, 808 (-2 763) fo 9. 223,372, 036,854, 976, 807 (2183=1) (inclusive) The Size of Long datatypes is 8 byte. 1) gloat datatupe: The alloat data type is a Simple-precision 32-bit lett. 754 divoting points - value range is unlimited, The aloat d type should kever be used for precise values Such as carrency this default value is out Stre PS Ubute: (8) Double Datatype; The double datatype is a double-precision 64-bit IEEE . 78 4 altogting pun It value range is unlimited. The double data for generally used for decimal value just like Ploat. The double data type also should never b used for precise values such as currency. The default value is 0.0d. The Size is 8 byte. Shot on realme C1 By Ruth Jenitta

8-6) Explain about memory managements in java, with reference to stack and heap. In java, Memory Management in a vital process It is managed by Java gutomatically. The M divides the memory into emony and heap memony. Here both eas are used for different major difference between stack memory and memory is that the stack is wed e order of method execution, and heap memory stores the uses dynamic memory allocation he stack memory is a physica ·allocated to each thread te chark tollows . LIFO because it is acceptible ie variables references results. Memori allocated dunction returns. If there creating the new objects ang. Stack Over How E is created when the JVM e application as verer we create obje occupies - Space in Shot on realme C1 By Ruth Jenitta

reference of that object creates in t It does not follow any order like the stace It dynamically handles the memory blocks. Shot on realme C1 By Ruth Jenitta

(3) Explain about the terms: Narrowing Midening Casting: Conserting a lower datatype to a higher datatype is known as widening. This case the casting I conversion is done automotically , 9th is known as implicit typ casting. In this case both data types should compatible with each other. byte -> short rint -> long -> Ploat -> double · Widening Example. fc void main l >> Integer value of the given character: 67 Shot on realme C1 By Ruth Jenitta

e is called hamowing type casting. It is know as explicit conversion or casting. It is - It is done manually by the programme we do not perform casting then compile we do not perform casting then compile reports a compile - time Error Namowing a wider bigger primitive Namowing a superclass Shot on realme C1 By Ruth Jenitta

0.8) Write a short note on Static keyword. The static keyword in java is mainly used for memory management. The static keyword in java is used to share the same variable or method of a given class; - The users can apply static keywords with variables, methods, Blocks and nested classes.

- The static keyword belongs to the class that an instance of a class. - The static keyword is used for a constant variable or a method that is the same ofor · every instance of a class. The static keyword is non-acres, modifier in java that is applicable for the following: 2. Variables 3. Methods. u: clasees. * characteristics of Static keyword.

i) shared Memory allocation : static variables and methods are allocated memory space only once during the execution. ii) Acceptible without object instantiation: member can be grented; without the to create an instance of the class. (ii) Associated with class, not objects 2 state member are associated with the Shot on realme CTO - with individual object By Ruth Jenitta

Iv) Cannot access non-static members: and variables cannot age non-static members of a class, as they are not associated with any particular te class. v) (an be Overloaded, but not over ridden: Static methods can' be overloaded, which means that you can define multiple thods with the same name but different n l'inside main' 2) Static black inside main value of i=10. value of n:80. Shot on realme C1 By Ruth Jenitta

ag) Write a short note on access Specifien. are the keywords like ed", "default" and "Rovote" pecial meaning in Java access specifiers. eyword which is introduced cress scope of the "Public" is classes and If we prefixed "Public" keyword class, variable or method that it · by any class or method ed access Specifiers. keyword cren scope of "Protected" is not - is accent d class or in al asses which are defined prefixed " Protected " ass, variable or n be accessed by the same id classes or all the cl which are defined in the Same packages Shot on realme C1

By Ruth Jenitta

c défault acress specifiers The access scope of the "default" is not eveniwhere. Reyword with any class, variable or method because by default class, variable or method is default public in java & it can be accepted by all those classes. which are defened in some packages d) Private aress Specifiers. The agress scope of the "Private" is not everywhere. the prefixed "Private" keyword with any variable or method then only in the same c Shot on realme C1 By Ruth Jenitta