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Aim :- Create debug and run Java program based on Constant, Variable, Operator.

Theory :-

Java :- Java is class based object-operat-or programming language that is designes have as few implementation depends as possible Complied for code can run all paltforms that Supports java without nrea is recompiication

Constant :- A Constant is a variable whose value Cannot change once it has been assigned Java doesn't have but-in support for Constants A Constant can make our program more esily read and understand other.

Suntax :- Final float pi = 3.11F;

Keyward :- Final

Variables :- A variable provide us with Named storage that our programs can manipulate Each variable in Java has a specific type which determine

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the size and layout of the variable memory There are 3 Types of variable
1] local variable 2] Instance variable
3] static variable.

① Data Types Variable Value;

Operators; Java provide a rich set of operators to manipulate variable

1] ~~Ar~~ Arithmetic operator

Arithmetic operators are used in mathmetical expression in some way as in in algebra
Ex: + Addition
- Subtraction

2] Relational operator

There are following relational operator supported by Java

== (equal to) :- check if the values of operanse one equal a
!= (not equal to): check if the value of operandy are equal or
> (greater than) :- check if value of left is greater than value of.

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3] Bitwise operator:

Java defines several bitwise oper. which can be applied to integer types long short char and byte. bitwise operator work bits and performs bit-by-bit operation.

& (Bitwise and)
| (Bitwise or)
^ (bitwise XOR)
~ (bitwise compliment)
<< (Left shift)
>> (Right shift)

4] Logical operator

Assume Boolean variable A holder type and variable B holds false then && (Logical and) : If both operands are non-zero then conditions become true.

|| [Logical or] :- If any two operands ~~true~~ are zero than conditon become in.

! [Logical Not] :- If condition is true then Logical Not operator will make False.

Program :-

```
import java.util.Scanner;
class practical 1 {
    public static void main (String [] args) {
        int r, s, l, b;
        double pi = 3.14, Circle, Square, rect;
        Scanner C = new Scanner (System.in);
        System.out.println (" Enter the radius of circle ");
        r = C.nextInt ();
        circle = pi * r * r;
        System.out.println (" Area of circle : " + circle);
        System.out.println (" Enter side of Square : ");
        s = C.nextInt ();
        Square = s * s;
        System.out.println (" Area of Square : " + Square);
        System.out.println (" Enter the length and breadth
                            of Rectangle : ");
        l = C.nextInt ();
        b = C.nextInt ();
        rect = l * b;
        System.out.println (" Area of Rectangle : " + rect );
    }
}
```

Conclusion :- Hence, we successfully Create, run and debug java program based on constant, Variable operator.