Date: 10 Feb 2024  
Time: 06:00 PM  
Day 3  
Course: CSE Bootcamp  
  
  
**TOPIC: DATA TYPES, VARIABLES, AND OPERATORS**  
Data Type - Type of data  
  
  
Q. Is Java statically typed or dynamically typed language?  
- Java is a statically typed language  
  
Statically typed language -  
Whenever we want to store something in programming/java we have to tell what type of data we are going to store.  
  
128 64 32 16 8  4  2  1  
[0, 0, 0, 0, 1, 0, 0, 0]  
  
0, 1 is nothing but a bit.  
   
8 bits group - 1 byte  
  
  
Numbers -  
    byte -> 1 byte - 8bits  (-128 to 127)  
    short -> 2 byte - 16bits (-32768 to 32767)  
    int -> 4 byte - 32bits (-2^31 to 2^31 - 1)  
    long -> 8 byte - 64bits (-2^63 to 2^63 - 1)  
  
  
Decimal Numbers-  
    float - 4 byte  - 32bits  
    double - 8 byte  - 64bits  
     
Characters -  
    char - 2byte - 16bits  
  
Boolean -  
    boolean - 1bit  
  
  
byte > short > int > long > float > double > char > boolean  
Primitive datatypes - These are the datatypes that hold only a single value.  
  
  
Variables -  
    Name given to a memory location  
    Named memory location  
  
  
Syntax -  
data\_type varaiable\_name = value;  
  
  
rules to define the name of a variable ->  
    accountNumber  
    account\_number  
    AccountNumber  
    account\_Number  
  
Keywords - Reserved words in Java  
    e.g - byte, short, int, long, double, float, class, public, static, void, etc  
  
  
Identifier - It is a name given to a class, variable, or method  
  
    Identifier must contain characters only from a-z, A-Z, 0-9, $, \_  
    Identifier must not begin with any digit e.g. 0accountnumber->X, 18accountnumber-> X, account18, \_accountnumber, $accountnumber.  
    Identifier must not be any keyword.  
  
    int \_byte = 21; - X  
  
  
Standards ->  
Class - always start with a capital letter  
Variables - always starts with a small letter or underscore or dollar  
  
  
  
Operators -> Operations  
It is a symbol used to perform some operations on any values  
The data on which we perform operations is called the operand  
  
  
 10 + 10  
  
+, -, \*, /, %  
  
Types of operators  
    -Arithmetic operator: +, -, /, \*, %  
  
  
Assignment -  
  
8 datatypes -> For each datatype perform all the arithmetic operator  
5 operators  
  
mixed operation check ki error, answer.  
12 mixed with their outputs and the errors.