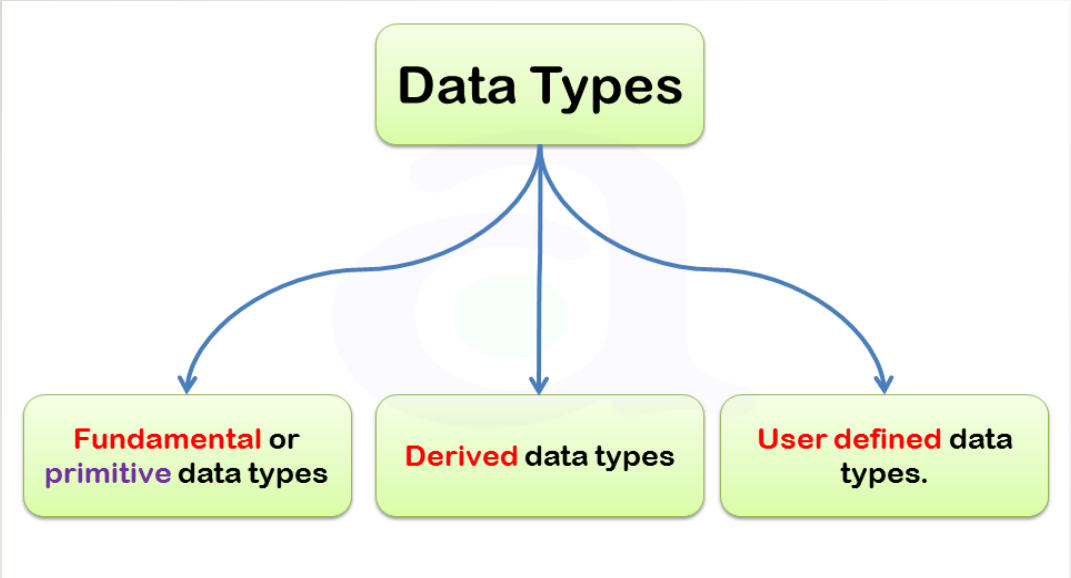
Code at Random®

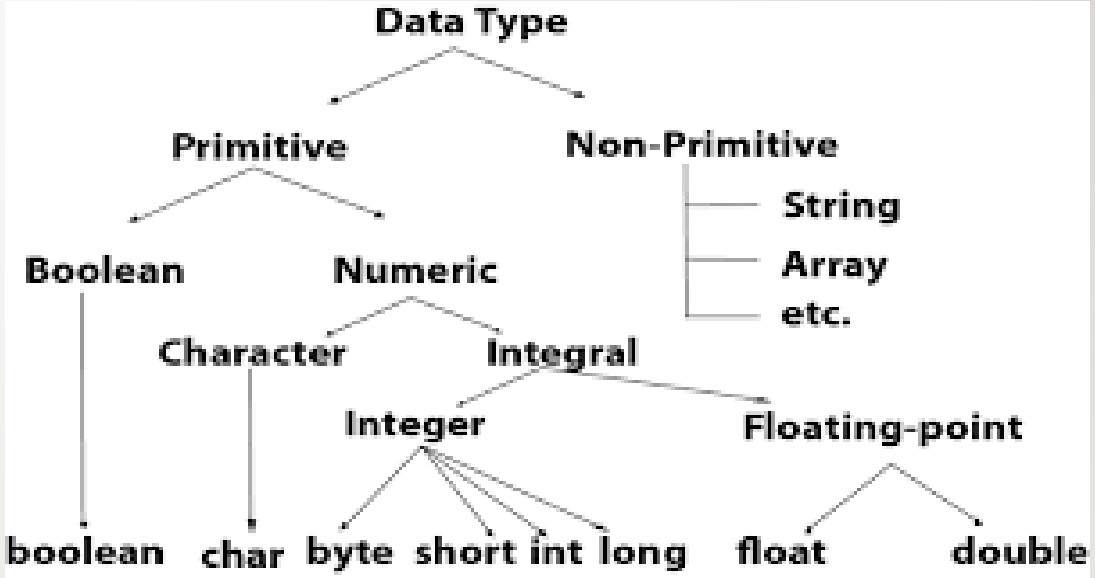
Data types and ternary operators

Data types in JAVA

- Data types are classified into
  - Primitive types
  - Non-primitive types
- Primitive types are also known as simple data types
- A primitive type is predefined by the language
- Primitive types are further classified into
  - Numeric types
  - Non-numeric types

Concept of data types





Primitive vs non-primitive data types

PRIMITIVE DATA TYPES

- It may be called as fundamental/atomic/pre-defined data type.
- These data types are already available in Java.
- Their size is fixed.
- Example= int, float etc.

NON-PRIMITIVE DATA TYPES

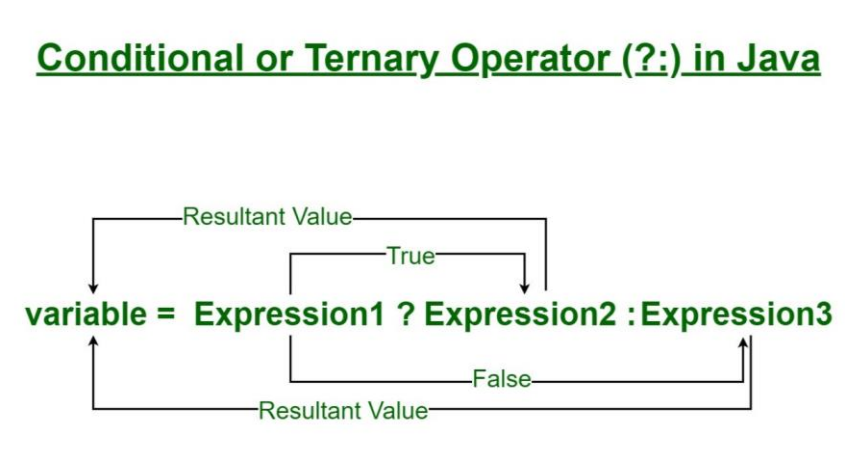
- It may be called a non-primitive / referenced data type .
- These data types are provided by the user by his own need .
- Their size is not fixed .
- Example= array, class etc.

Data types in JAVA

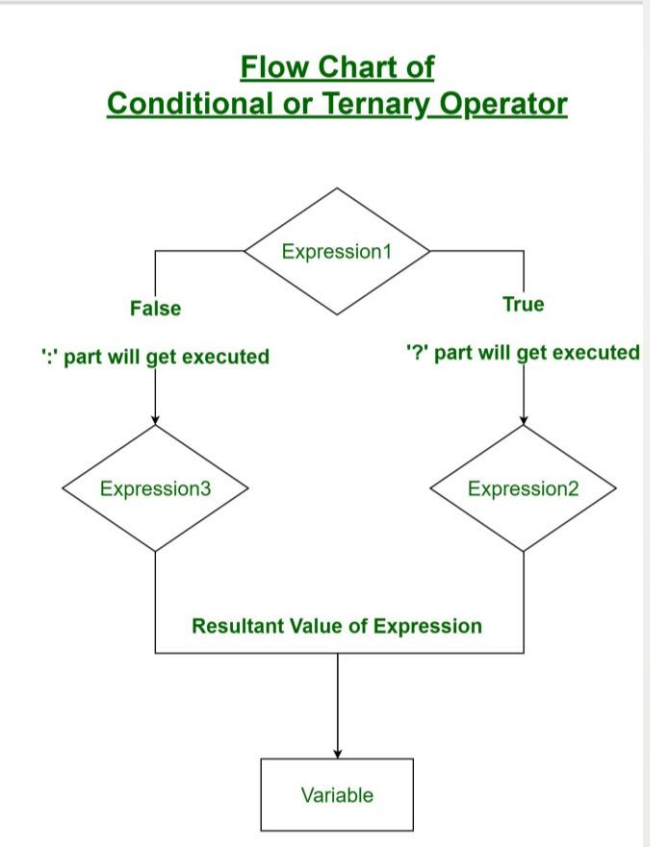
1 byte = 8 bit

Data Type	Default Value	Default Size	Value Range	Example
boolean	false	1 bit (which is a special type for representing true/false values)	true/false	boolean b=true;
char	'\u0000'	2 byte (16 bit unsigned unicode character)	0 to 65,535	char c='a';
byte	0	1 byte (8 bit Integer data type)	-128 to 127	byte b=10;
short	0	2 byte (16 bit Integer data type)	-32768 to 32767	short s=11;
int	0	4 byte (32 bit Integer data type)	-2147483648 to 2147483647.	int i=10;
long	0L	8 byte (64 bit Integer data type)	-9,223,372,036,854,775,808 to 9,223,372,036,854,775,807	long l=100012;
float	0.0f	4 byte (32 bit float data type)	1.40129846432481707e-45 to 3.40282346638528860e+38 (positive or negative).	float f=10.3f;
double	0.0d	8 byte (64 bit float data type)	4.94065645841246544e-324d to 1.79769313486231570e+308d (positive or negative)	double d=11.123;

Ternary Operators



- The operator which requires three operands to works upon is called ternary operators.
- It is also known as conditional operator.
- Conditional Operator code:
  variable= condition? Values True: False;
  m= a>b? a: b;



Questions for Ternary Operators

- Assign fine as ₹ 100 when speed more than 60 otherwise fine is 0.
- Assign discount as ₹ 200 when purchase is more than ₹ 10,000 otherwise discounts is ₹ 100.
- Assign commission as 10% of sales if sale is more than ₹ 25,000 otherwise it is 5% of sales.

Home Assignment Questions:-

- Assign tax as 30% of income above ₹ 2, 00, 000 otherwise 0.
- Print “Hello” when n is 5 otherwise prints “Bye”.

Programs Covered In Class

1.)
```
public class ternary_operator
{
    void main()
    {
        int speed= 40;
        int fine;
        fine= (speed>=60)?100:0;
        System.out.print("Your fine is:"+fine);
    }
}
```

2.)
```
public class ternary_operator2
{
    void main()
    {
        int discount, purchase=5000;
        discount= (purchase>=10000)?200:100;
        System.out.print("Your discount is: "+discount);
    }
}
```

Programs Covered In Class

3.) public class commission

```
{
    void main()
    {
        double commission;
        int sales= 12525;
        commission= (sales>=25000)?(0.1*sales):(0.05*sales);
        System.out.print("Your commission is:"+commission);
    }
}
```