**11th May, 2020 JESUS AND MARY SCHOOL & COLLEGE MODULE 1**

**CLASS 10**

**COMPUTER APPLICATION**

**VALUE AND DATA TYPE**

**In this chapter some important topics which are related to Java program are explained.**

First of all we discuss about **character set** in Java.

 **Character set** is a **set** of alphabets, letters and some special **characters** that are valid in **Java** language. Character set is divided into main four parts

1. Letter
2. Digits
3. Operators
4. Delimiter
* Letters : All alphabets are used in java programming

Upper Case Alphabets – A to Z

Lower Case Alphabets – a to z

* Digits : All digits are used in java programming

 Digits - 0 to 9

* Operators: All type of special sign used to perform operations in java programming.

Arithmetical operator - + (ADD), - (SUB.), \* (MULT), / (DIV.),

 % (MODULUS)

Logical operators - &&(AND), || (OR), ! (NOT)

Relational Operators- < (Less than), > (Greater than), < = (Less than equal to),

 >= (greater than equal to), = = (equal to) , ! = (not equal to)

* Delimiters : These are special character in java programming

Braces : braces means brackets which is used in java program

 Like- (), {}, [], etc

Punctuation marks

 Comma (,), dot(.), semicolon (;), questions mark (?) , colon(:)

Now we discussing about encoding character

**What is Encoding Character in JAVA:-**

All character encoding does is assign a number to every character that can be used. Two type of encoding character are used in computer to encode the characters. They are ASCII code and UNICODE

**ASCII CODE:** ASCII code stands for American Standard Code for Information Interchange. It used 7 bits code for representing each character.

 **Example**

 **Code Character**

 **48 – 57 0 - 9**

 **65 – 90 A – Z**

 **97 – 122 a – z**

 **32 Blank Space**

**Unicode:** The Unicode is a representing of character in numeric form. The code contains hexadecimal digits ranging from OxOOOO up to OxFFFF( i,e, 16 bits)

After Unicode I am going to discuss about Escape Sequences

**What do you mean by Escape Sequence?**

Escape Sequence is a special printing character that is used to control the cursor while displaying the values on the screen. Each Escape Sequence start with backslash ((“\”) followed by the specific character

Example

 Using Escape Sequence

1. **“\n” (Black slash n) : This character is used new line feed**

Mostly it used in output statement in java

System.out.print(“God is great” +”\n” +” God bless you”)

According above print statement give output in such manner

God is great

God bless you

(It display two statement in different line instead same line)

1. **“\t” (Back slash t) This character is used to separate the values on the screen with a gap of 8 space between them.**

Also it used in output statement of java

System.out.print(“God is great” +”\t” +” God bless you”)

According above print statement give output in such manner

God is great God bless you

(It display two statement in same line with a 8 space gap)

**Token:** Token is a set of valid character used in java program. They are smallest elements of the program identified by compiler.

There are different types of token used in java program

* Literals
* Identifier
* Assignment
* Operators
* Punctuators
* Separators
* Reserve Keywords

First of all we discuss what are literals? And it’s used in java program.

* **Literal : Literal have fixed value which can’t be changed at all.**

 The various types of literals used in java

1. Integer Literals

The whole numbers (+ and - ) are known as integer literals.( Example: 12,17,234 etc.)

1. Real Literals

Real literals are fraction numbers (Example: 1.2, 1.7, 23.4 etc.)

1. Character Literals

A single integer or a character or any special letter (Example: ’8’, ‘m’, ‘@’ etc.)

1. String Literals

A set of group of characters enclosed within double quotes is known as String literals

 (Example: “856”, “god”, “@&#” etc.)

1. Boolean Literals

A boolean literals can either true or false

(Example: “856”, “god”, “@&#” etc.)

1. Null Literals

Null literal denotes the absence of a value. It is used to initialize an object or array.

(Example: Integer num=null, String wd=null)

* **Identifier: Identifier is also known as variable. It can be a class name, a function name , an object**
* **Assignment: This statement is used to store value in a variable.**

Example

 int a=19

 float b=8.25

* **Operators : Operators are the symbols used to specify the operations to be performed in a java expression.**
* **Punctuators : Some types of punctuators are used in java program.**

( Exp. Colon, Semicolon, Dot, etc.)

* **Separators: They are special characters in JAVA , which is used to separate the variables or the characters ( Exp. { }, [ ], ( ) and Comma)**
* **Keywords : Keywords are reserved keywords which are used only by the system and carry special meaning for the system compiler.**

Example class, public and sqrt etc.

**WORKSHEET**

**Assignment Work (Review Class IX)**

1. What is a literal? And explain it types.
2. What is the difference between ‘char literal’ and ‘String literal’?
3. Explain any two token with example.
4. Identify the literals listed below
5. 0.5
6. ‘A’
7. false
8. Give reason whether the following assignments are correct or not
9. int a=10.90
10. double m=2367
11. String str=”true”
12. String wd=’Computer’
13. char ch=”Y”
14. Write a program in Java to find the value of v in given expression v2= u2+2\*a\*s
15. Write a program in Java to input three numbers and find the maxi.mum number.
16. Write a program in Java to input number of digits and print sum of all even digits.
17. Write a program in Java to Print Square and Square root of numbers from 1 to 15.
18. Write a program in Java to print the sum of series

S=0+7+26+63+ ------------------- n terms

**Note: -** Please do all this work in your old copies which will be check when school be re-open.

**Please consider this important**

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