~~#60)~~

★ lecture 5 - Conditionals and Loops + Calculator Program

#1) Conditional Statements (If, else, else-if)

Syntax :-

```
if(boolean expression T or F)
{
    Body
}
else if (boolean exp^n. T or F)
{
    do this
}
else
{
    do this
}
```

Code :- P11Conditionals.java

```
package com.tejas;
import
public class P11Conditionals {
    public static void main(String[] args)
    {
```

```
int salary = 25400;
    if (salary > 10000) {
        salary += 2000; // salary = salary+2000
    }
    else if (salary > 20000) {
        salary += 3000;
    }
    else {
        salary += 1000;
    }
    System.out.println(salary);
}
}
```

2.) Loops :-

Looping is a feature that executes set of instructions/ functions repeatedly while some cond^n evaluates to true.

3 types of Loops :-

1.) while loop
2.) do-while loop
3.) for loop.

1.) while-loop :-

Syntax :-

```
while (cond^n)
{
  body
}
```

ex :- code - P12WhileLoop.java

2.) Do-while loop :-

Syntax :-

```
do {
  body
} while (cond^n);
```

ex :- code - P13DoWhileLoop.java

3.) for loop :-

Syntax :-

```
for(initialization; cond^n; increment/decrement)
{
  body
}
```

ex :- code - P14ForLoop.java

Note;- 1.) When we know how many times loop going to run we use for loop like print first 10 natural numbers of counting. otherwise we use while / do-while loop like take i/p from user untill he/she presses x and print them.

2.) Diff" b/w while & Do-while loop is that do while executes at least once even if cond" is false.

#3.) Practice programs;-

1.) Take 3 numbers as i/p and print largest Number among these 3.

Code;- P15LargestNumber.java

2.) Take an alphabet from user (lower or upper case) and tell whether it is upper or lower case

Code;- P16AlphaCheckCase.java

3.) Take no. from user and count how many times a particular digit occur in that no.

ex;- 7 (8) (9) 4 (8) 3 5 6 (9) 4 9 occur 2 times
8 " 2 "
etc.

Code;- P18CountOccurance.java

4.) Take an i/p from user and prints its equalent fibonacci series value

eg:- I/p :- 7

fibonacci series :- 0 1 2 3 4 5 6 7
0 1 1 2 3 5 8 13 21...

So o/p should be :- 13

Code:- P17Fibonacci.java

5.) Take a number from user and print its Reverse.

eg:- I/p:- 56789

o/p :- 98765

Code:- P19 Reverse.java

6.) Make a calculator in which user can input infinitely untill press X and also ask for operator each time after operation

eg:- +
38
49
38 + 49 is 87
*
42 87 + 42 is 138

Code:- P20CalculatorX.java