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CSA0992 - PROGRAMMING IN JAVA

G.k. Gagana priya
192011080

ASSIGNMENT-1

OPERATORS:-

Special Symbols perform Special operators

Types:-

Arithmetic operators
Assignment operators
Comparison operators
Logical operators
Bitwise operators
Increment/Decrement operators

Arithmetic operators:

operator	Name	Example
+	Addition	x+y
-	Subtraction	x-y
*	multiplication	x*y
/	Division	x/y
%	Modulus	x%y

Assignment operators:-

Operator	Example	
=	x = 5	x = 5
+=	x += 3	x = x + 3
-=	x -= 3	x = x - 3
*=	x *= 5	x = x * 5
/=	x /= 5	x = x / 5
%=	x %= 5	x = x % 5
&=	x &= 3	x = x & 3
!=	x != 3	x = x != 3
^=	x ^= 3	x = x ^ 3
>>=	x >>= 5	x = x >>= 5
<<=	x <<= 5	x = x <<= 5

Comparison operators:-

Operator	Name	Example
==	Equal to	x == y
!=	Not equal to	x != y
>	Greater than	x > y
<	Lesser than	x < y
>=	Greater than or equal	x >= y
<=	lesser than or equal	x <= y

Logical operators:-

operator	Name	Example
&&	Logical AND	x<5 && x<10
||	Logical OR	x<5 || x<4
!	Logical NOT	!(x<5 && x<10)

Bitwise operator:-

operator	Name	Example
&	Bitwise AND	x & y
^	Bitwise Exclusive OR	x ^ y
|	Bitwise Inclusive OR	x | y
~	Complement	~x
<<	Left shift	x << y
>>	Right shift	x >> y

Increment/Decrement operator

operator	Name	Example
++	post Increment	x++
	pre Increment	++x
--	post decrement	x--
	pre decrement	--x

CONTROL STATEMENTS :

Executed according order Smooth flow of program

Types :-

① Decision making statements
- → If statement
- → Switch statement

② Looping statements
- → do while
- → while
- → for Loop

③ Jump statements
- → Break statement
- → Continue statement

① Decision making statements :-

If statements :- Evaluate a Condition
Divered specific Condition
Condition either True (or) False

Types :-
- ⓐ Simple If statement
- ⓑ If-else statement
- ⓒ If-else if statement
- ⓓ Nested-If statement

mple if statement

Expression Evaluates to true

Syntax:- If (condition)
{ statement;
}

If else statement

If (condition)
{ statement 1;
}
else
{ statement 2;
}

Nested If statement:-

If (condition 1)
{
statement 1;
}
If (condition 2);
{
statement 2
}
else
{
statements
}
}

If else If statements:-

If (condition 1)
{ statement 1;
}
else if (condition 2)
{ statement 2;
}
else
{
statement 3;
}

Switch statements:-

multiple blocks of code in a single code

Switch (Expression)
{

```
    case value 1;
     statement 1;
     break;
   }
   case value N;
     statement N;
     break;
     default;
     default statement;
  }
```

Looping statement:-

Execute code Repeatedly

Execution instruction particular condition

Types:- (a) for loop

(b) while loop

(c) Do-while loop

for loop:

```
for (initialization ; condition ; increment/decrement)
{
  block or statements
}
```

while loop

```
while (condition) {
 statement
 }
```

do while

```
do
{
 statement
}
while condition;
```

Jump statements:

Transfer control specific statement

Execute other parts of the program.

Types:-

(a) break statement

(b) continue statement

break statement

Stop the current flow of the program

Continue statement:

Shape the specific parts.

APPLICATIONS:-

* Mathematical calculation.
* Searching.
* Sorting.
* Handling Electarine and IOT Related operations.