```
fun main() {
    var A = true;
    var B = false;
    var C = false;
    var X = false;
    var Y = true;
    var Z = false;
    //// 1 ////
    println("A = \$A; B = \$B; C = \$C;");
    println("AVB = \{A \mid B\}");
    println("A^B = \{A \& B\}");
    println("BVC = ${B || C}");
    //// 2 ////
    println("\nX = \$X; Y = \$Y; Z = \$Z;");
    println("XVZ = \{X \mid | Z\}");
    println("X^Y = \{X \& Y\}");
    println("X^Z = \{X \& Z\}");
    //// 3 ////
    println("\nA = \$A; B = \$B; C = \$C;");
    println("!A^B = \{!A \&\& B\}");
    println("AV!B = \{A \mid | B\}");
    println("AVB^C = \{A \& \& B | | C\}");
    //// 4 ////
    X = true; Y = true; Z = false;
    println("\nX = \$X; Y = \$Y; Z = \$Z;");
    println("!X^Y = \{!X \&\& Y\}");
    println("XV!Y = \{X \mid | !Y\}");
    println("XVY^Z = ${X || Y && Z}");
```

```
//// 5 ////
println("\n5 is the same as number 4.");
//// 6 ////
X = false; Y = false; Z = true;
println("\nX = $X; Y = $Y; Z = $Z;");
println("XVY^{!}Z = \${X | Y \&\& !Z}");
println("X^{1}YVZ = \{X \&\& !Y | | Z\}");
println("!X^!Y = \{ !X \&\& !Y \}");
println("X^(!YVZ) = \{X \&\& (!Y | | Z)\}");
println("!(X^Z)VY = \{\{!(X \&\& Z) || Y\}"\};
println("X^{(!(YVZ))} = \{X \&\& (!(Y || Z))\}");
//// 7 ////
println("\nA = \$A; B = \$B; C = \$C;");
println("AV!(A^B)VC = \${A | | !(A \&& B) | | C}");
println("!AVA^(BVC) = ${!A || A && (B || C)}");
println("AVB^{!}C = ${A && B || C}");
```

}