5   COMPUTER PROGRAMMING

Control Flow Statement

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□ **Control Flow Statement**

■ IF ~ [ELSE]

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CONTROL FLOW STATEMENT

☐ **In Java language, providing if, switch statements for supporting logical control flow statement**

☐ **if-else statement**

> if (conditional statement) statement1;
>
> [else statement2;]

☐

CONTROL FLOW STATEMENT

```
boolean dataAvailable;
// ...
if (dataAvailable)
 ProcessData();
else
 waitForMoreData();
```

```
int bytesAvailable;
// ...
if (bytesAvailable > 0) {
  ProcessData();
  bytesAvailable -= n;
} else {
  waitForMoreData();
  bytesAvailable = n;
}
```

CONTROL FLOW STATEMENT

☐ **Nested IF steatement**

```
if(i == 10)  {
    if(j < 20) a = b;
    if(k > 100) c = d;
    else a = c;
}
else a = d;
```

CONTROL FLOW STATEMENT

☐ **IF – ELSE – IF statement**

EXAMPLE (IF ~ ELSE)

```
class IFelse {
 public static void main(String args[]) {

  int month = Integer.parseInt(args[0]);
  String MtoS;

  if(month == 12 || month == 1 || month == 2)
   MtoS = "겨울";
  else if(month == 3 || month == 4 || month == 5)
   MtoS = "봄";
  else if(month == 6 || month == 7 || month == 8)
   MtoS = "여름";
  else if(month == 9 || month == 10 || month == 11)
   MtoS = "가을";
  else
   MtoS = "해당되는 계절이 없습니다.";

  System.out.println( month + " 월은 " + MtoS + " 입니다.");
 }
}
```

```
class IFelse {
 public static void main(String args[]) {

   int month = Integer.parseInt(args[0]);
   String MtoS;

   if(month == 12 || month == 1 || month == 2)
    MtoS = "겨울";
   else if(month == 3 || month == 4 || month == 5)
    MtoS = "봄";
   else if(month == 6 || month == 7 || month == 8)
    MtoS = "여름";
   else if(month == 9 || month == 10 || month == 11)
    MtoS = "가을";
   else
    MtoS = "해당되는 계절이 없습니다.";

   System.out.println( month + " 월은 " + MtoS + " 입니다.");
 }
}
```

□ SWITCH STATEMENT

■ Multiple selection; have a number of possible execution paths.

```
switch (expression)  {
    case  value1:
        statements ;
        break;
    case  value2:
        statements;
        break;
        ...........
    case  value n:
        statements;
        break;
    default:
        statements to be processed implicitly;
}
```

CONTROL FLOW STATEMENT(SWITCH)

☐ Nested SWITCH statement

```
switch(count) {
 case 1:
  switch(flag)  {
    case 0:
      System.out.println("flag is zero");
       break;
    case 1:
       System.out.println("flag is one");
       break;
  }
  System.out.println("내포된 switch문 실행");
  break;
 case 2:
   ....................
```

```java
class Switch {
 public static void main(String args[]) {
   for(int i=1; i<5; i++)
     switch(i) {
       case 1:
         System.out.println(i +" : 가위 ");
         break;
       case 2:
         System.out.println(i + " : 바위");
         break;
       case 3:
         System.out.println(i + " : 보");
         break;
       default:
         System.out.println(i + "는 1에서 3사이의 값이 아닙니다.");
     }
  }
}
```

```
class SwitchNoBreak {
  public static void main(String args[]) {
    int month = Integer.parseInt(args[0]);
    String MtoS;
    switch (month) {
     case 12:
     case 1:
     case 2:
       MtoS = "겨울 입니다.";
       break;
     case 3:
     case 4:
     case 5:
       MtoS = "봄 입니다.";
       break;
     case 6:
     case 7:
     case 8:
       MtoS = "여름 입니다.";
       break;
```

```
     case 9:
     case 10:
     case 11:
MtoS = "가을 입니다.";
       break;
     default:
       MtoS = "12개월 이내의 달이 아닙니다.";
    }
    System.out.println(month + "월은 " + MtoS );
  }
}
```

```
class SwitchNoBreak {
   public static void main(String args[]) {
      int month = Integer.parseInt(args[0]);
      String MtoS;
      switch (month) {
       case 12:
       case 1:
       case 2:
        MtoS = "겨울 입니다.";
        break;
       case 3:
       case 4:
       case 5:
        MtoS = "봄 입니다.";
        break;
       case 6:
       case 7:
       case 8:
        MtoS = "여름 입니다.";
        break;
```

```
       case 9:
       case 10:
       case 11:
MtoS = "가을 입니다.";
        break;
       default:
        MtoS = "12개월 이내의 달이 아닙니다.";
      }
      System.out.println(month + "월은 " + MtoS );
   }
}
```

CONCLUDE

□ Control Flow Statement

- ■ IF ~ [ELSE]

- ■ SWITCH ~ CASE