5. Conditional Statements & Loops

① if-else :-

```
if (true) {
    Condition-1;
}
```

```
if (true) {
    Condition;
}
else {
    Condition;
}
```

② while :-

```
while (Condition) {
    Condition;
    increment;
}
```

- when you don't know how many times loop is going to run.

③ for :-

```
for (initialization; Condition; increment) {
    Statements;
}
```

④ do-while :-

```
do{
  statements;
}while(Condition);
```

① Find largest in 3 numbers

(A) ① using 4th variable,

```
a=10        let max=a, then
b=20          if b>max:
c=30            max=b
                if c>max;
                  max=c
              else max=a
```

② without 4th variable,

```
if a>b & a>c,
    max=a
  if b>a & b>c
    max is b
    if c>a & c>b
      max is c
else.
```

```
int max=0;
if (a>b){
    max=a
} else{
    max=b;
}
if (c>max){
    max=c;
}
```

③ int max= Math.max(c, Math.max(a,b))

Q) fibonacci numbers.

0, 1, 1, 2, 3, 5, 8, 13, 21 - - - -

A)

```
a=0;
b=1;
~~temp=0; while (b!=0) n=0;~~
while (n!=0){
    int temp = a+b;
    Sout("n+"th fiboracci number= " + temp);
    a=b;
    b=temp;
    n++;
}
```

b ← a
1 ← b
1 ← temp2
2

Q) ~~Find nth fibonacci number~~.

Q) Count occulances? n = 1385757879

A) how many '7' ⇒ 3

A)

```
while (n>0){
    int rem = n%.10;
    if (rem==occur){
        Count++;
    }
}
Sout(Count);
```

Q) Reverse n = 1234

ans = 4321

A) ⇒ while (n > 0) {

int temp = n % 10;

ans = ans * 10 + temp

n = n / 10;

n = 1234
ans = 0
⇒ temp = 4
ans = 0 * 10 + 4
= 4
n = 123
ans = 4
temp = 3
ans = 4 * 10 + 3 = 43
n = 12

6. Switch

In switch case, we can directly jump to various cases based on condition given.

```
Switch(expression){
    case one;
        //statement;
        break;
    Case two;
        //statement;
        break;
    default;
        //statement;
```

```
Switch (fruit){
    Case "Mango":
        System.out.println("yellow fruit");
        break;
    Case "Apple";
        System.out.println("red fruit");
        break;
    default:
        System.out.println("enter valid fruit");
}
```