

# Mobile Application Development with Flutter

Lecture 7: Conditions & Loops

# Conditions in Dart

- When we write a program we need to be able to tell the computer what to do in different situations
- With conditions, we can control the flow of the dart program
- For Example
  - When user press 'subtract' button, we want to perform subtraction
  - By pressing 'add' button, we want to add numbers

# Types of Condition

- If Condition
- If-Else Condition
- If-Else-If Condition
- Switch case
- Ternary Operator

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# 1 if Statement

```
int age = 20;
```

```
if (age >= 18) {  
    print("Adult");  
}
```

## 2 if-else Statement

```
int marks = 40;  
  
if (marks >= 50) {  
    print("Pass");  
} else {  
    print("Fail");  
}
```

### 3 if-else-if Ladder

```
int marks = 75;

if (marks >= 80) {
    print("Grade A");
} else if (marks >= 70) {
    print("Grade B");
} else if (marks >= 60) {
    print("Grade C");
} else {
    print("Fail");
}
```

## 4 Nested if

```
int age = 20;
bool hasID = true;

if (age >= 18) {
    if (hasID) {
        print("Entry allowed");
    } else {
        print("ID required");
    }
}
```



## 5 Ternary Operator

```
int age = 17;  
String result = age >= 18 ? "Adult" : "Minor";  
print(result);
```



## 6 switch Case

```
int day = 3;

switch (day) {
    case 1:
        print("Monday");
        break;
    case 2:
        print("Tuesday");
        break;
    case 3:
        print("Wednesday");
        break;
    default:
        print("Invalid");
}
```

# Loops in Dart

- In Programming, loops are used to repeat a block of code until certain conditions are not completed
- For, e.g., if you want to print your name 100 times, then rather than typing `print("your name");` 100 times, you can use a loop
- There are different types of loop in Dart. They are:
  - For Loop
  - For In
  - For Each Loop
  - While Loop
  - Do While Loop

# 1 for Loop

```
for (int i = 1; i <= 5; i++) {  
    print(i);  
}
```

```
List<String> names = ["Ali", "Sara", "Ahmed"];  
  
for (int i = 0; i < names.length; i++) {  
    print(names[i]);  
}
```



## 2 for-in Loop

```
for (var name in names) {  
    print(name);  
}
```

## 3 forEach Loop

```
names.forEach((name) {  
    print(name);  
});
```

```
names.forEach((name) => print(name));
```

## 4 while Loop

```
int i = 1;

while (i <= 5) {
    print(i);
    i++;
}
```



## 5 do-while Loop

```
int i = 1;  
  
do {  
    print(i);  
    i++;  
} while (i <= 5);
```

## 6 break Statement

```
for (int i = 1; i <= 5; i++) {  
    if (i == 3) break;  
    print(i);  
}
```

## 7 continue Statement

```
for (int i = 1; i <= 5; i++) {  
    if (i == 3) continue;  
    print(i);  
}
```