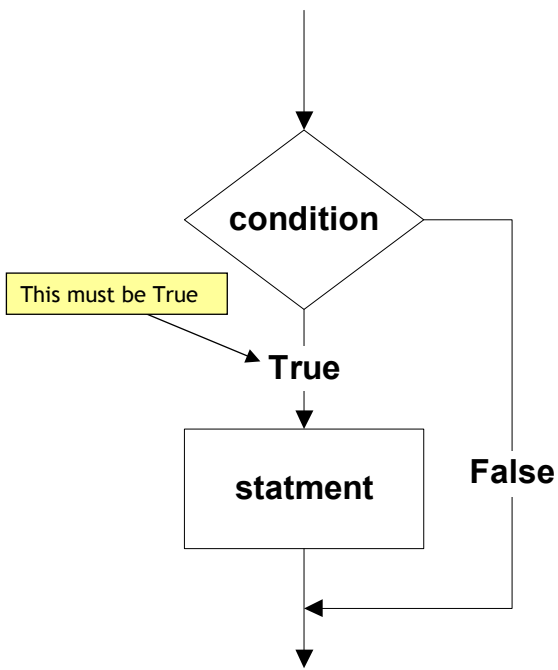


# Translating flowchart to C code

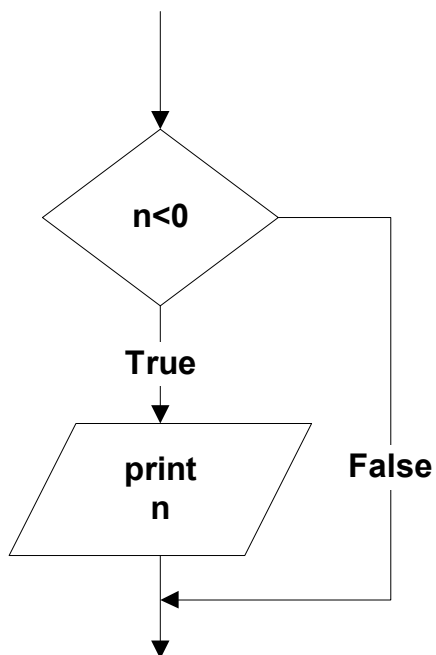
## Pattern 1



```
if (condition)
{
    statement;
}
```

# Translating flowchart to C code

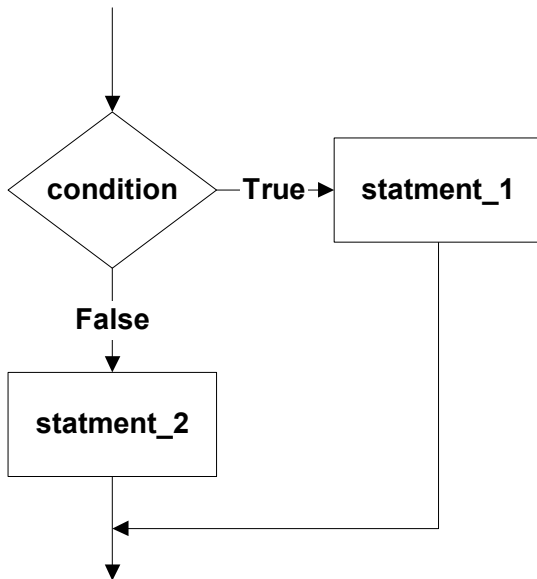
## Example 1: Printing a number only if it is a negative



```
if (n<0)
{
    printf("%d", n);
}
```

# Translating flowchart to C code

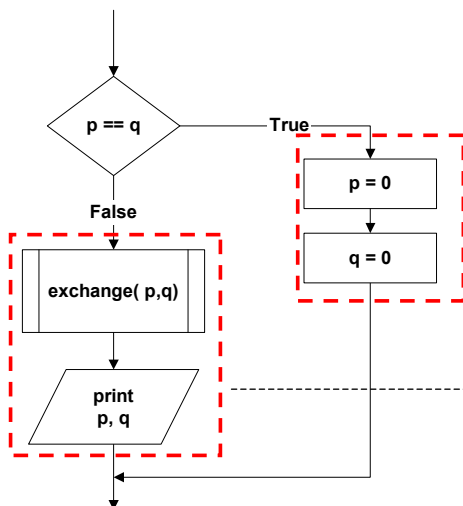
## Pattern 2



```
if (condition)
{
    statement_1;
}
else
{
    statement_2;
}
```

# Translating flowchart to C code

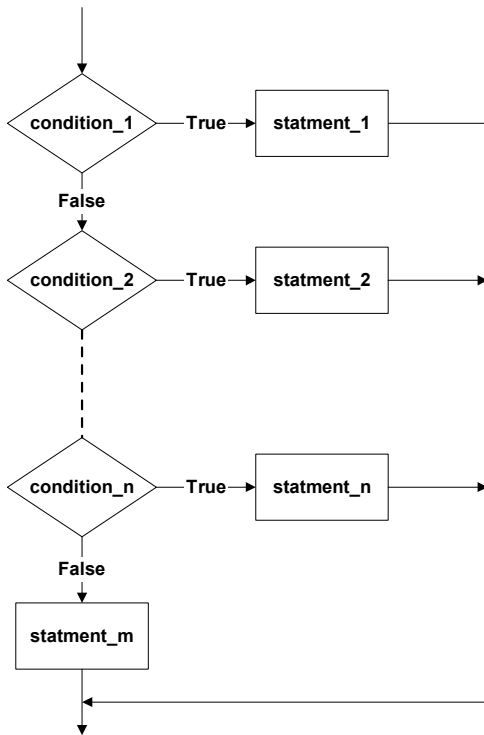
**Example 2:** If two numbers ( $p$  and  $q$ ) are equivalent reset them to zero, otherwise exchange or swap their value each other and then print the new values.



```
if (p==q)
{
    p = 0;
    q = 0;
}
else
{
    exchange (&p, &q);
    printf("p=%d    q=%d", p, q);
}
```

# Translating flowchart to C code

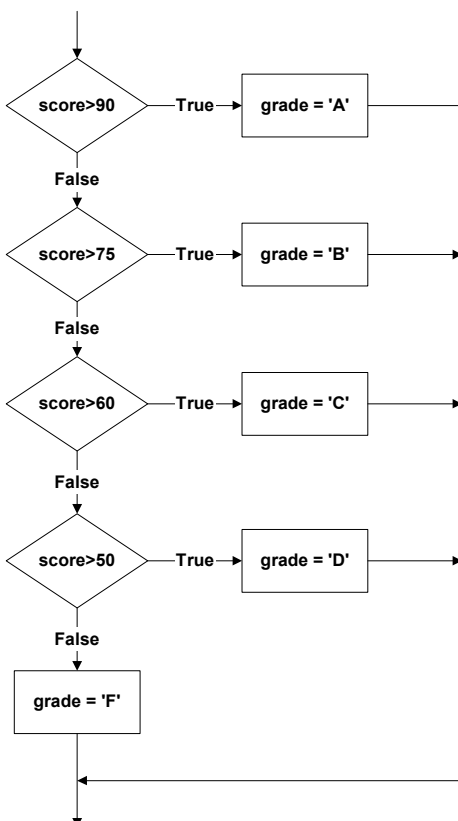
## Pattern 3



```
if (condition_1)
{
    statement_1;
}
else if (condition_2)
{
    statement_2;
}
|
|
|
else if (condition_n)
{
    statement_n;
}
else
{
    statement_m;
}
```

# Translating flowchart to C code

## Example 3: Identifying the grade of a score

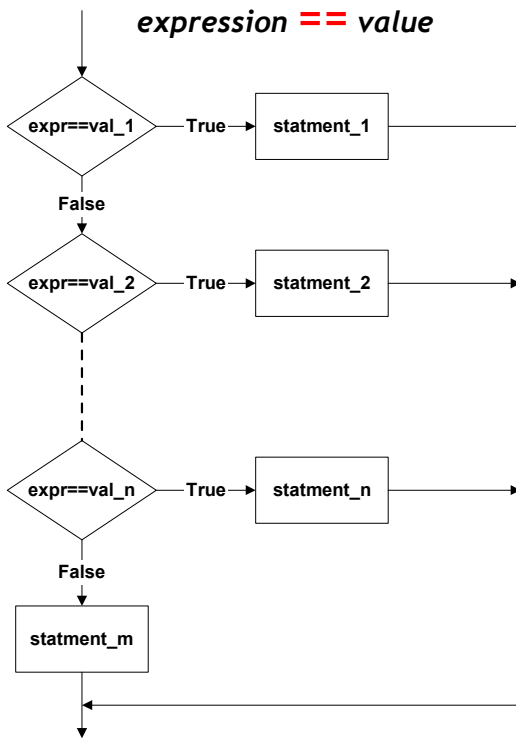


```
if (score > 90)
{
    grade = 'A';
}
else if (score > 75)
{
    grade = 'B';
}
else if (score > 60)
{
    grade = 'C';
}
else if (score > 50)
{
    grade = 'D';
}
else
{
    grade = 'F';
}
```

# Translating flowchart to C code

## Pattern 4

- The conditions must be in this form:



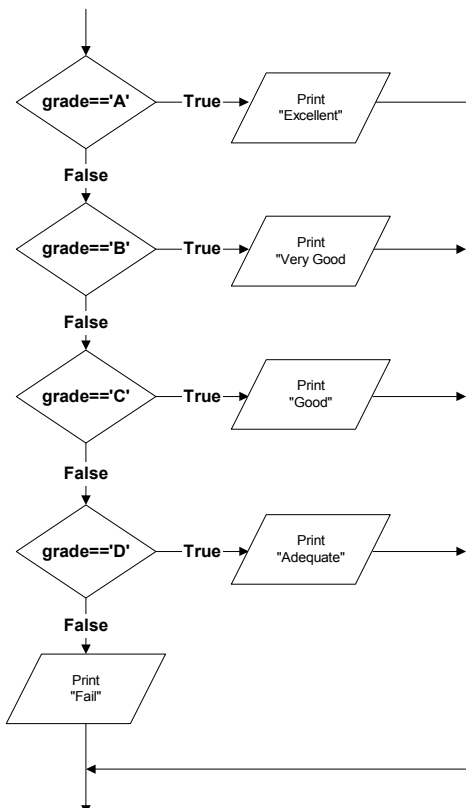
```
switch (expr)
{
  case val_1 : statement_1;
              break;

  case val_2 : statement_2;
              break;
  |
  |
  |
  case val_n : statement_n;
              break;

  default:    statement_m;
              break;
}
```

# Translating flowchart to C code

Example 4: Printing the description of a grade.



```
switch (grade)
{
  case 'A' : printf("Excellent!");
            break;

  case 'B' : printf("Very good!");
            break;

  case 'C' : printf("Good");
            break;

  case 'D' : printf("Adequate");
            break;

  default : printf("Fail");
            break;
}
```