Cours 5

CONDITIONAL STATEMENTS

(switch)

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Overview – if..else statement

Write a C program that reads the **rank** of a competitor and displays the corresponding **medal :** (Gold, Silver, Bronze).

Overview – if..else statement

```
int main() {
    int Rank;
    printf("Enter your rank (1-3): ");
    scanf("%d", &Rank);
    if (Rank == 1)
        printf("Gold \n");
    else if (Rank == 2)
        printf("Silver \n");
    else if (Rank == 3)
        printf("Bronze \n");
    else
        printf("No medal \n");
    return 0; }
```

Overview – if..else statement

Exercise 4 (Cours):

A student has three homework assignments to prepare. If he does the first one, he will get **1 point**; if he does the second one, he will get **1.5 point; and** if he completes the third one, he will get **2 points**. Write a program that calculates the number of points collected by the student.

Overview – if..else statement

Example :

```
if (1)
{
    printf("This is true");
}
else
{
    printf("This is false");
}
```

- The value **True** can be equated to the numerical value **1** or any **non-zero** value.
- The value **False** can be equated to the numerical value **0**.
- Don't forget the **parentheses** when using **if** statements.

The switch Statement

- switch statement allows a variable to be tested **for equality** against a list of values.
- It provides a clear way to handle multiple cases without using a lot of if-else statements.

The switch Statement

Syntax of the switch Statement :

```
switch (Variable) {
    case Value1 :
        // List of instructions;
        break;
    case Value2 :
        // List of instructi
        break;
    case Values... :
        // List of instructions;
        break;
    default:
        // List of instructions;
}
```

Code to be executed if Variable == Value1

Code to be executed if Variable == Value2

The switch Statement

- **switch (Variable) :** here the variable is compared against each possible case.
- **case value:** it defines a possible value (**constant**) that the Variable may match.
- **break;** If a case matches and executes, control exits the switch statement. If break is omitted, control will continue to the next case

The switch Statement

- **default:** This is an optional case that serves as a catch-all. If none of the cases matches, the code in the default block will execute.

The switch Statement

Example.

```
switch (Rank)
{
        case 1:
            printf(“Gold \n");
        break;
        case 2:
            printf(“Silver \n");
        break;
        case 3:
            printf(“Bronze \n");
        default:
            printf(“No medal \n");
}
```

The switch Statement

Example.

```
int x = 2, y = 3;
switch (x) {
case y:  // × ERROR: y is a variable, not a constant
printf (“x equals to y \n");
break;
default :
printf (“x doesn’t equal to y \n");
}
```

Overview – if..else statement

Exercise 5 (Cours):

Write a program that converts a value of the metric system given in value of the American measurement system. The user has the choice to provide a measure to your program in **meters**, **grams** or **Celsius** degrees and you should convert it to **feet**, **pounds** or degrees **Fahrenheit**.
(Remember to use the instruction “Case of")
Here are the conversion rules to use :

- 1 foot = 0.3048 meters
- 1 gram = 0.002205 pounds
- Fahrenheit degree temperature = 32 + (1.8*temperature in degrees Celsius).

Example : 12.3 m = 40.35 feet