C under Linux

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C - Control statements

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Conditional Statements

If statement

- ► Syntax:

```
if (expression)
    statement;

OR

if (expression)
    statement;
else
    statement;
```

Conditional Statements

Dangling **else** problem

▶ The ambiguous statement below can be differently interpreted by user:

```
if (a) if (b) s; else s2;
```

▶ 1st interpretation (*):

```
if (a){
    if (b)
        s;
    else
        s2;
}
```

▶ 2nd interpretation:

```
if (a){
    if (b)
        s;
}else
    s2;
```

Conditional Statements

Multiway choice with *if*

```
if (4 == month || 6 == month || 9 == month || 11 == month)
    days = 30 ;  /* Apr, Jun, Sept, Nov */
else
    if  (2 == month)
        days = 28 ; /* Feb*/
    else
        days = 31; /* All the rest*/
```

Conditional Statements

switch statement

▶ Syntax:
```
switch (expression){
    case constant1:
        // statements
        break;
    case constant2:
        // statements
        break;


    default:
        // default statements
}
```
▶ Only an integer *expression* is allowed (*int*, *char*).
▶ The value of the variable determines which case is chosen.

Conditional Statements

switch statement - example

```c
/* How many days in a month? */
switch (month){
    case 2:                 /* February */
        days = 28 ;
        break ;
    case 4:                 /* April */
    case 6:                 /* June */
    case 9:                 /* September */
    case 11:                /* November */
        days = 30 ;
        break ;
    default:                /* All the rest have 31 ...*/
        days = 31 ;
}
printf("There are %d days. \n ", days);
```

Conditional Statements

switch statement - example

```c
char marital_status ;
switch (marital_status){
    case 'm':
    case 'M':
        printf ("Married \n");
        break;
    case 's':
    case 'S':
        printf ("Single \n");
        break;
    default:
        printf ("Sorry, I don't recognize that code. \n" );
}
```

Conditional Statements

Terneray operator

▶ Syntax:
```
condition ? value_if_true : value_if_false
```

▶ Example:
```c
#include<stdio.h>
int main(){
    int nNum1;
    printf("Enter a number :");
    scanf("%d", &nNum1);
    (nNum1 % 2 == 0)? printf("Even") : printf("Odd");
    return(0);
    }
```

Conditional Statements

Terneray operator - example

```c
#include<stdio.h>
int main(){
    int nNum1 = 10, nNum2 = 20;
    printf("Max is %d", (nNum1 > nNum2) ? nNum1 : nNum2);
    return(0);
}
```