Lecture - 13

Programming in C

- flow of Control

if - else Ladder: Multiple if - else Statement

Syntax

```
if (Condition 1) {
    ↳ Body of if
}

else if (Condition 2) {
    ↳ Body of else if
}

else if (Condition 3) {
    ↳ Body of else if
}

        :

else if (Condition n) {
    ↳ Body of else if
}

else {
    ↳ Body of else
}
```

Ex: Program, age

A) age > 18 → you can drive

B) age == 18 → Apply for license

C) age < 18 → Not eligible

Ex: Program, age

A) age > 18 → you can drive

B) age == 18 → Apply for license

C) age < 18 → Not eligible

```
#include <stdio.h>
int main(){
    int age;
    printf("Enter your age: ");
    scanf("%d", &age);
    if (age>18) {
        printf("You can Drive");
    }
    else if (age<18) {
        printf("Not eligible")
    }
    else {
        printf("Apply for learning licence")
    }
    return 0;
}
```

Write a program to print the grade of a student by taking the % as input according to the following Criteria:

%	Grade
≥ 90	A
90 > % ≥ 80	B
80 > % > 70	C
70 > % ≥ 60	D
% < 60	E

```
#include <stdio.h>
int main() {
    float perc;
    printf("Enter Percentage:");
    scanf("%f", &perc);
    if (perc >= 90) {
        printf("A");
    }
    else if (perc >= 80 && perc < 90) {
        printf("B");
    }
    else if (perc >= 70 && perc < 80) {
        printf("C");
    }
    else if (perc >= 60 && perc < 70) {
        printf("D");
    }
    else {
        printf("E");
    }
    return 0;
}
```

Nested if-else :

```
if (Condition) {
    if ( nested Condition ) {
        if ( Condition ) {
            .....
                if ( Condition n) {
                }
        }
    }
}
```

Write a program to check the largest of three numbers (using Nested Conditionals) :

```
# include <stdio.h>
int main ( ) {
    int a=10, b=20, c=5 ;
    if (a > b){
        if (a>c) {
            printf ("A is greater");
        }
        else {
            printf ("C is greater");
        }
    }
    else {
        if (b>c) {
            printf("B is greater");
        }
        else {
            printf ("C is greater");
        }
    }
    return 0 ;
}
```

Logic

a > b
- → a > c ⇒ (A)
- → (C)

a < b
- → b > c ⇒ (B)
- → (C) →

Goto Statement :

↳ also called as Jump Statement

↳

```
# include <stdio.h>
int main (){
    int a= 10;
    printf (" Hello\n");
    if(a == 10){
        goto LABEL;
    }
    printf (" good Morning\n")
    printf (" Jump ");
    printf (" Hi ") ;
LABEL :
    printf (" Inside label") ;

return 0;
}
```

True (1)

Skip

a= 10

Hello

Inside label

Switch Case Statement:

```
switch (expression) {

    case (constant value) :
        // code
        break ;

    case (another value) :
        // code
        break ;

        :

    case n :
        // code
        break ;

    default :
        // code

}
```

Value

terminate the switch

optional

Write a program to take value 2, 8, 10, 16, then print the number System

```c
#include <stdio.h>

int main(){
    int base;
    printf("Enter the base:\n");
    scanf("%d", &base);

    switch (base){

        case 2:
            printf("Binary Number System");
            break;

        case 8:
            printf("Octal Number System");
            break;

        case 10:
            printf("Decimal Number System");
            break;

        default:
            printf("Invalid Choice")
    }
```

8

8

match

terminate