

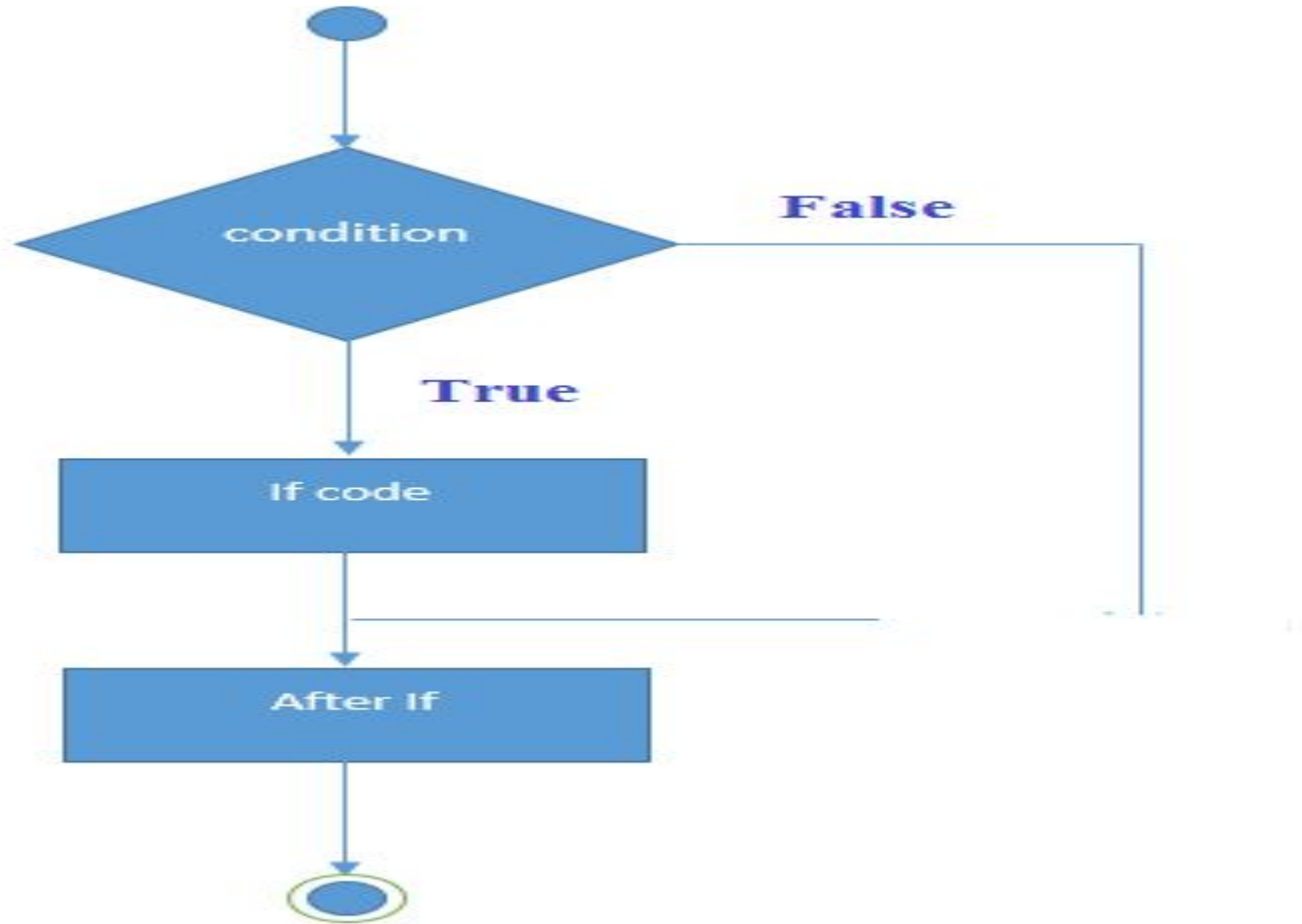
If else

The if-else statement in C is used to perform the operations based on some specific condition. The operations specified in if block are executed if and only if the given condition is true.

There are the following variants of if statement in C language.

- ❑ If statement
- ❑ If-else statement
- ❑ If else-if ladder
- ❑ Nested if

FlowChart of If



Program to calculate a number is even

```
#include<stdio.h>
int main(){
int number=0;
printf("Enter a number:");
scanf("%d",&number);
if(number%2==0){
printf("%d is even number",number);
}
return 0;
}
```

If else

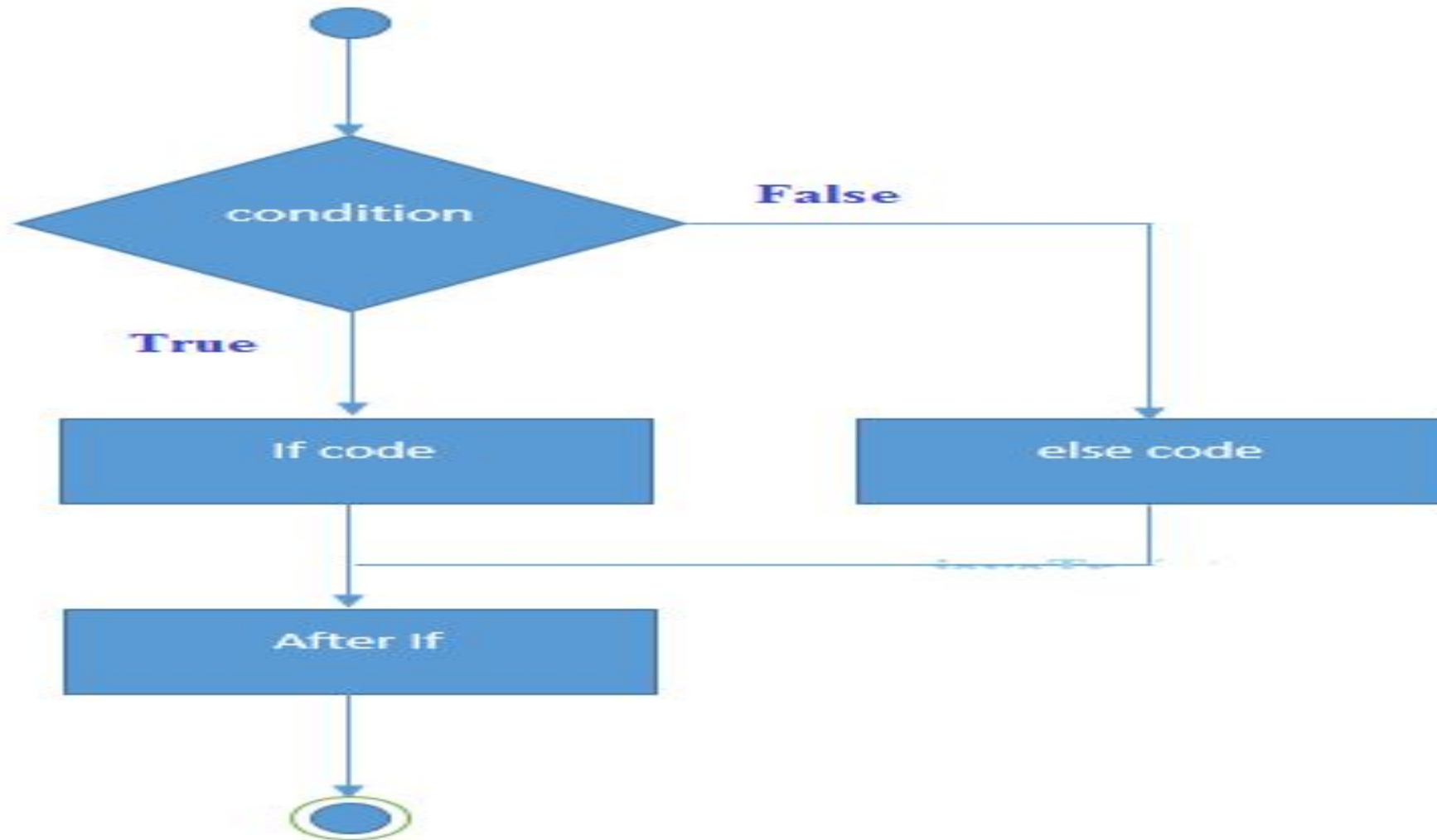
If-else

The if-else statement is used to perform two operations for a single condition. The if-else statement is an extension to the if statement using which, we can perform two different operations. One is for the correctness of that condition, and the other is for the incorrectness of the condition.

The syntax of the if-else statement:

```
if(expression)
{
//code to be executed if condition is true
}
Else
{
//code to be executed if condition is false
}
```

FlowChart of If else



Program to calculate a number is even or odd

```
#include<stdio.h>
int main(){
int number=0;
printf("enter a number:");
scanf("%d",&number);
if(number%2==0){
printf("%d is even number",number);
}
Else
{
printf("%d is odd number",number);
}
return 0;
}
```

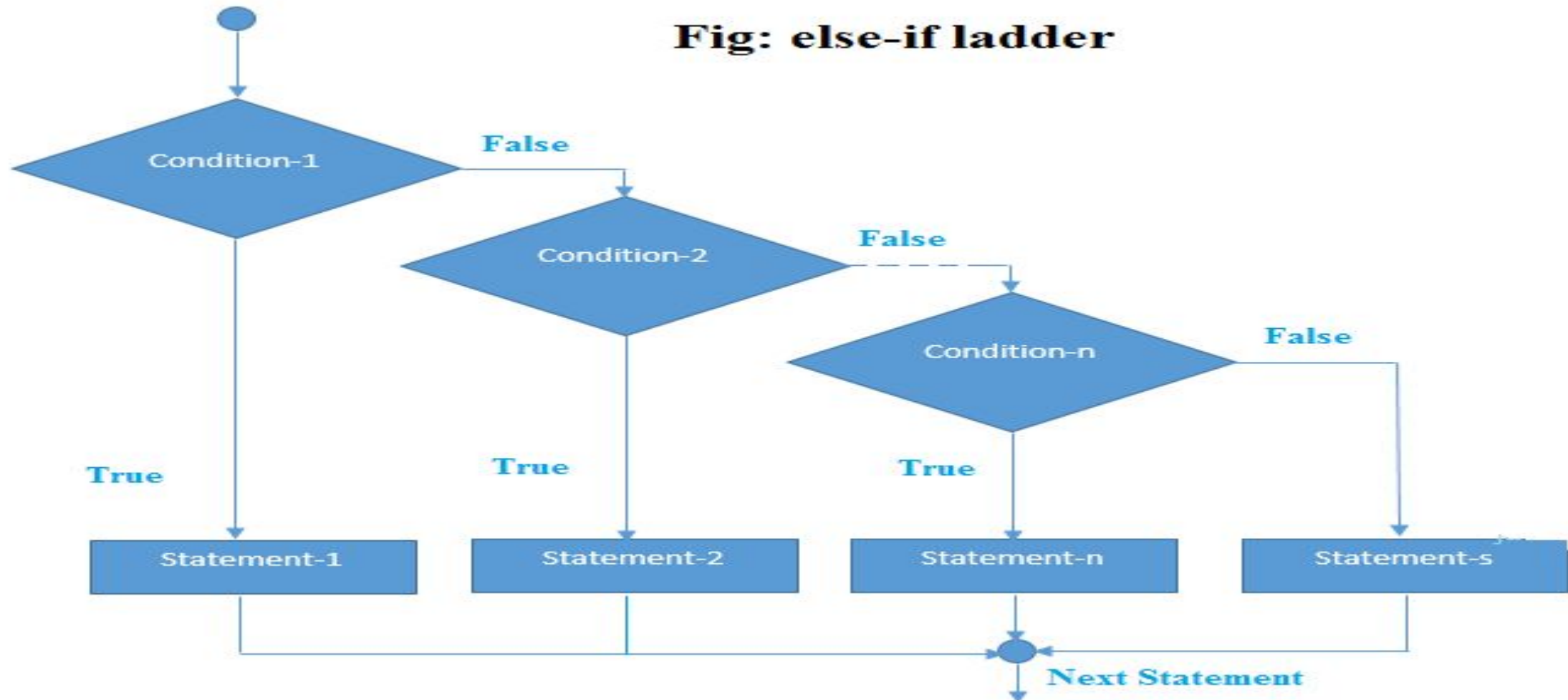
If else-if ladder

The if-else-if ladder statement is an extension to the if-else statement. It is used in the scenario where there are multiple cases to be performed for different conditions. It is similar to the switch case statement where the default is executed instead of else block if none of the cases is matched.

```
if(condition1)
{
//code to be executed if condition1 is true
}
else if(condition2)
{
code to be executed if condition2 is true
}
else if(condition3)
{
//code to be executed if condition3 is true
}
```

FlowChart of If else ladder

Fig: else-if ladder



Program to calculate the grade of the student according to the specified marks.

```
#include <stdio.h>
int main()
{
    int marks;
    printf("Enter your marks?");
    scanf("%d",&marks);
    if(marks > 85 && marks <= 100)
    {
        printf("Congrats ! you scored grade A ...");
    }
    else if (marks > 60 && marks <= 85)
    {
        printf("You scored grade B + ...");
    }
    else if (marks > 40 && marks <= 60)
    {
        printf("You scored grade B ...");
    }
    else if (marks > 30 && marks <= 40)
    {
        printf("You scored grade C ...");
    }
    else
    {
```

Lab Task:

Write a C program to check whether a person is eligible to vote or not

```
#include <stdio.h>

int main()
{
    int age;
    printf("Enter your age?");
    scanf("%d",&age);
    if(age>=18)
    {
        printf("You are eligible to vote...");
    }
    else
    {
        printf("Sorry ... you can't vote");
    }
}
```

Write a C program to check whether character is an alphabet or not using conditional/ternary operator.

```
#include <stdio.h>
int main()
{
    char c;
    printf("Enter a character: ");
    scanf("%c", &c);
    if ((c >= 'a' && c <= 'z') || (c >= 'A' && c <= 'Z'))
    {
        printf("%c is an alphabet.", c);
    }
    else
    {
        printf("%c is not an alphabet.", c);
    }
    return 0;
}
```

Write a C program to enter any number and check whether the number is palindrome or not.

```
#include <stdio.h>

int main()
{
    int n, num, rev = 0;
    printf("Enter any number to check palindrome: ");
    scanf("%d", &n);
    /* Copy original value to 'num' to 'n'*/
    num = n;
    /* Find reverse of n and store in rev */
    while(n != 0)
    {
        rev = (rev * 10) + (n % 10);
        n /= 10;
```

```
/* Check if reverse is equal to 'num' or not */

        if(rev == num)
        {
            printf("%d is palindrome.", num);
        }
        else
        {
            printf("%d is not palindrome.", num);
        }

        return 0;
    }
```

Exercise



1. Using conditional operators determine:

- (1) Whether the character entered through the keyboard is a lower case alphabet or not.
- (2) Whether a character entered through the keyboard is a special symbol or not.

2. Write a program using conditional operators to determine whether a year entered through the keyboard is a leap year or not.