

Lab 5

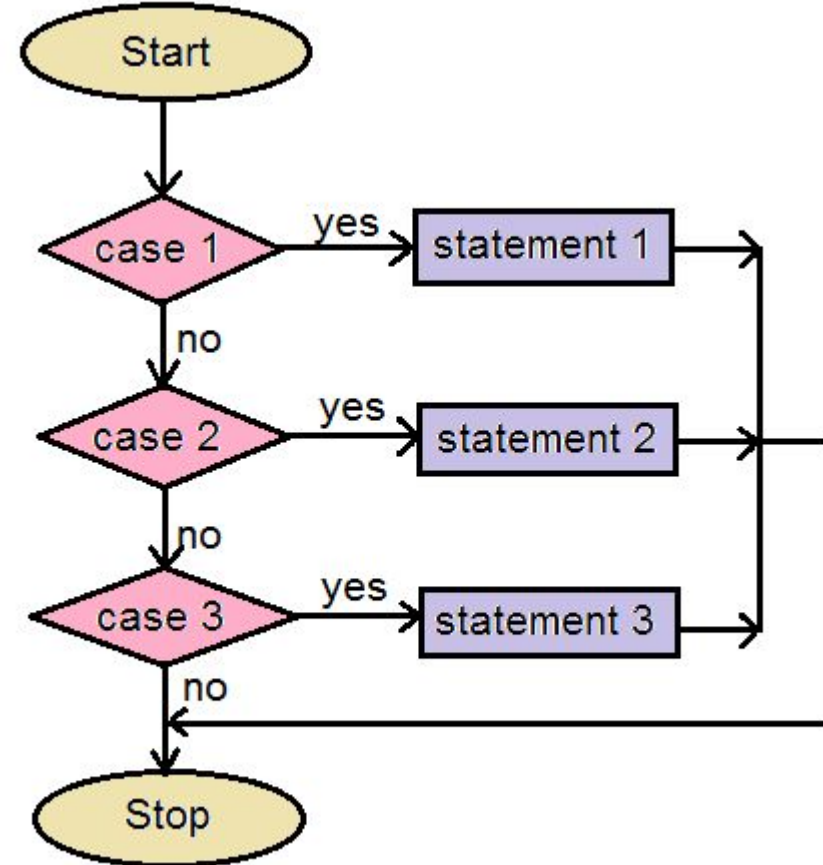
Conditional Statements & Iterative Control in C

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Switch Statement

Syntax

```
switch ( controlling expression ) {  
  case 1 :  
    statements1 ;  
    break;  
  case 2 :  
    statements 2 ;  
    break;  
  .  
  .  
  .  
  case n :  
    statements n ;  
    break;  
  default:  
    statements d ;  
}
```



As a substitute for Long If

EXAMPLE USING IF - ELSE	EXAMPLE USING SWITCH
<pre>#include <stdio.h> int main () { char grade = 'E'; if(grade == 'A') printf("Superb!\n"); else if(grade == 'B') printf("Very good!\n"); else if(grade == 'C') printf("Good.\n"); else if(grade == 'D') printf("Passed.\n"); else if(grade == 'F') printf("Try again.\n"); else printf("Invalid grade.\n"); printf("Your grade is %c.\n", grade); return 0; }</pre>	<pre>#include <stdio.h> int main () { char grade = 'F'; switch(grade) { case 'A' : printf("Superb!\n"); break; case 'B' : printf("Very good!\n"); break; case 'C' : printf("Good\n"); break; case 'D' : printf("Passed\n"); break; case 'F' : printf("Try again\n"); break; default : printf("Invalid grade\n"); } printf("Your grade is %c.\n", grade); return 0; }</pre>

Nested Switch

1. School of Computer Science

- a. Department of Informatics
- b. Department of Machine Learning

2. School of Business

- a. Department of Commerce
- b. Department of purchasing

3. School of Engineering

- a. Department of Mechanical Engineering
- b. Department of Mechatronics Engineering

Lab activity

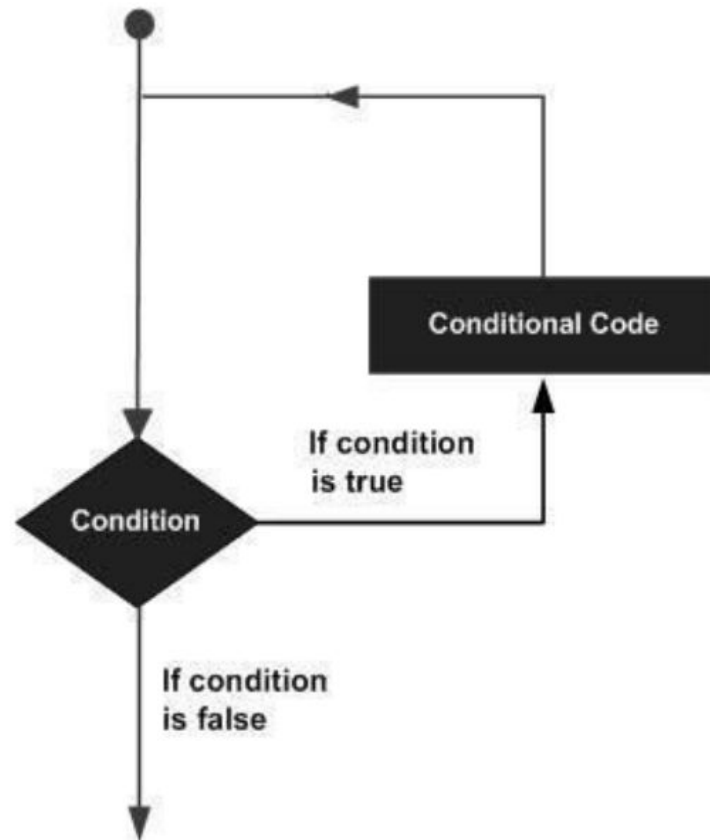
1. Using Switch statement, write a program that displays the following menu for the food items available to take order from the customer:

B= Burger	(Rs. 200)
F= French Fries	(Rs. 50)
P= Pizza	(Rs. 500)
S= Sandwiches	(Rs. 150)

The program first asks to enter the choice i.e. B for Burger and then for quantity. The program should finally display the total charges for the order.

2. Write a program for simple calculator with Switch-Statements.
3. Implement scenario on slide 4 using nested Switch

Iterative Control



While Loop

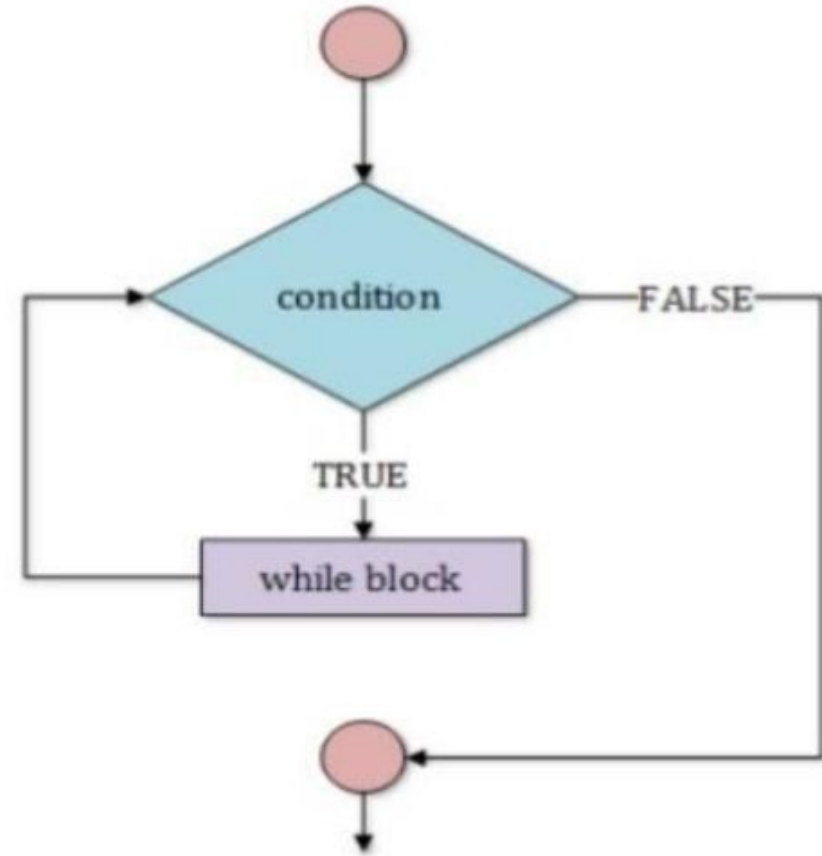
Syntax

The syntax of a while loop is –

initialize loop counter;

```
while(condition) {  
    statement(s);  
    loop counter  
}
```

- Here, statement(s) may be a single statement or a block of statements.
- The condition may be any expression, and true is any nonzero value.



Example 1

```
#include<stdio.h>
#include<conio.h>
int main ()
{
    int num=1; //initializing the variable
    while(num<=10) //while loop with condition
    {
        printf("%d\n", num);
        num++; //incrementing operation
    }
    return 0;
}
```



Example 2

```
main()
{
    int num, i;
    printf ("Enter a number");
    scanf ("%d", &num);
    i = 2;
    while (i <= num - 1)
    {
        if (num % i == 0)
        {
            printf ("Not a prime number");
            break;
        }
        i++;
    }
    if (i == num)
        printf ("Prime number");
}
```

Lab activity

4. Write a program in which user continuously enters integer numbers, the program stops when the user enters any number other than the numbers between 200 and 400. Finally, it displays the sum of all the numbers entered by the user.
5. Write a program in which user continuously enters a character, the program stops when the user enters 'z' character and finally displays the number of characters entered.
6. A while loop that asks a user if they would like to start a game, if they input y a message reads "game about to start", if they enter n a message reads "ok, goodbye", any other input should display "sorry, enter y/n only"
7. A while loop that checks if a password has been entered correctly. A message should read "password denied" until the user inputs the correct password "compscirules"

