Unit III

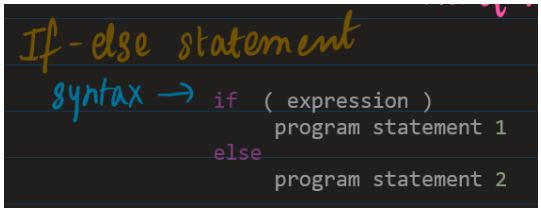
1. Give the differences between sequence control, decision control and looping control statements. Give example.

Ans: control statements help to jump control from one part of the program to another.

- Sequence control: Normally instructions in the program are executed in the same order in which they appear in the program
- Decision control: In some cases, we need to execute a set of instructions based on certain criteria. This way of controlled execution of statements can be achieved by using decision statements in the program.
- Looping control statements: they are used to repeat the execution of a sequence of statements (statement block) as long specified condition remains true.

2. Elaborate the working of If-Else statement in C with syntax and Example

Ans:



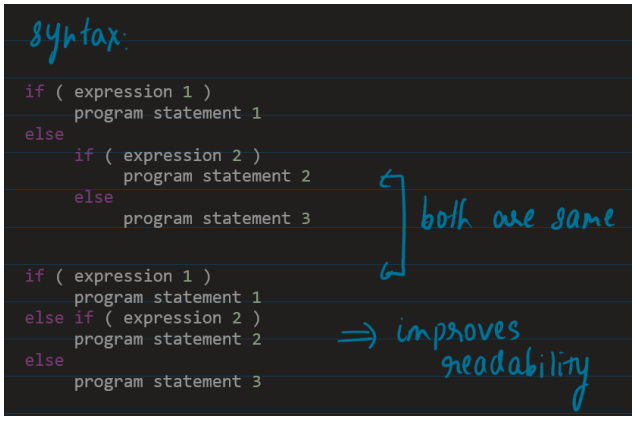
example:

```c
// Program to categorize a single character that is entered at
the terminal

int main (void)
{
     char  c;
     printf ("Enter a single character:\n");
     scanf ("%c", &c);
     if ( (c >= 'a'  &&  c <= 'z') || (c >= 'A'  &&  c <= 'Z') )
          printf ("It's an alphabetic character.\n");
     else if  ( c >= '0'  &&  c <= '9' )
          printf ("It's a digit.\n");
     else
          printf ("It's a special character.\n");
     return 0;
}
```

3. Explain the if-else ladder with an example

Ans:

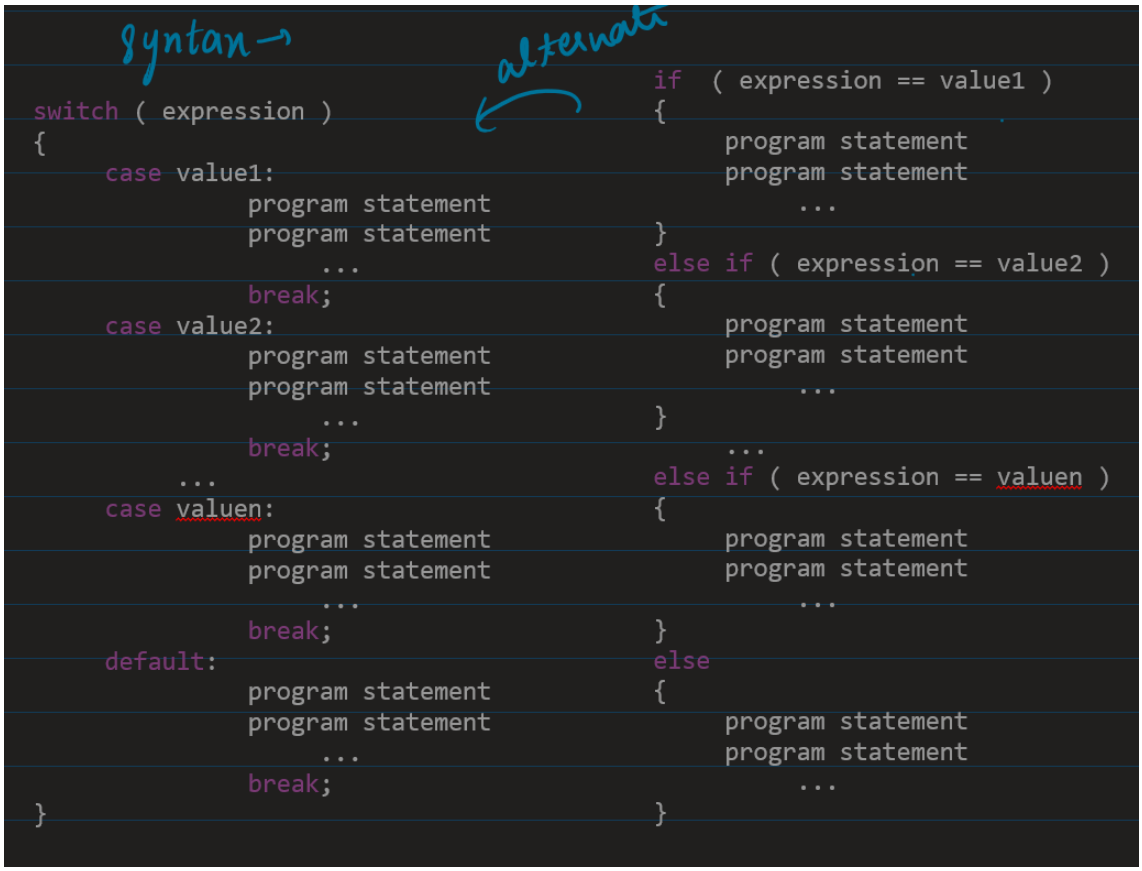


4. What is a ternary operator? Give example

Ans:

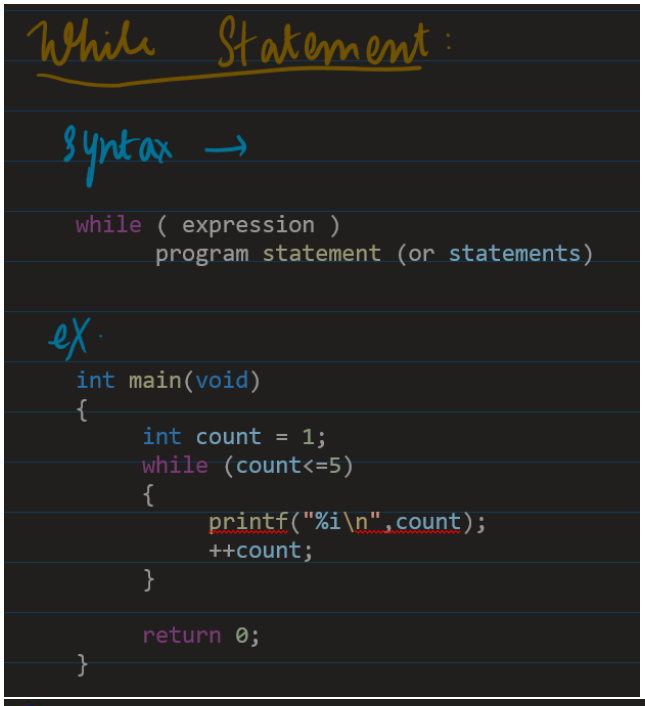
5. Give the differences between if-else and switch case

Ans:



6. With relevant example give the differences between do-while and while loop

Ans:

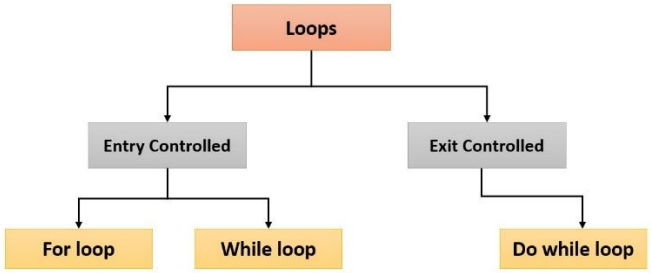


7. Discuss the role of goto, continue and break and detail

Ans:

- break is used to terminate the loop prematurely in which it appears.
- continue is used to skip the iteration in the loop based on the condition.
- goto is used for unconditional transfer of control from goto statement to a labelled statement in the program.

8. What are the different looping structures in C? Give examples



Ans:

9. Summarize the differences between Entry controlled and Exit controlled loop

Ans:

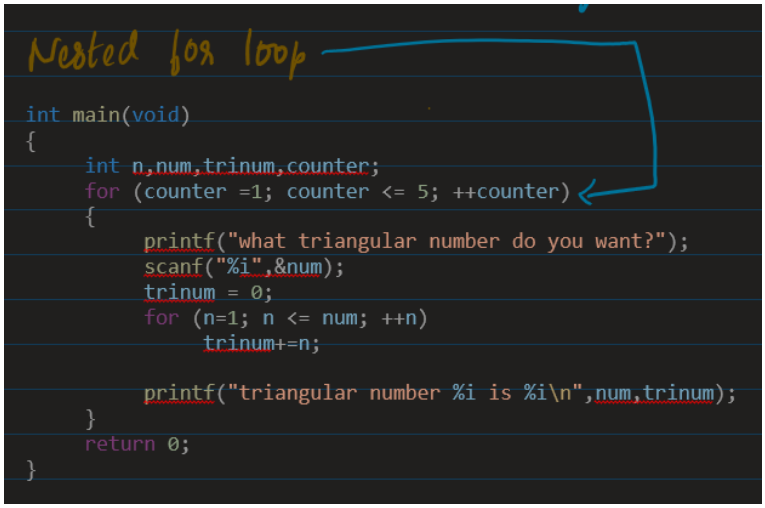
- Key difference between entry controlled Loop and exit controlled Loop is that
- Entry loop, loop block won't execute if test expression returns false.
- Exit loop, loop block will be executed even though test expression returns false.

Definite loop: when no of iterations is known. Eg: for loop

Indefinite loop: when no of iterations is not known. Eg: while, do while.

10. Explain the working of nested for loop in detail

Ans:



11. Define an array? How do you declare and initialize a one-dimensional array in C?

Ans:

- It is a collection of similar data elements, and all have the same data type.
- The elements of the array are stored in consecutive memory locations and are referenced by an index (subscript).
- Declaring an array: int marks[10];

- Initializing array elements: int marks[5] = { 25, 99, 76, 54, 88 }
- Access the elements of an array:
    - int i, marks[10];
    - for (i=0;i<10;i++)
        marks[i] = -1;
-

12. Explain the working of two-dimensional arrays with an example

 # Relevant programming examples to be practised