**Module 2**

**Control statements in c**

introduction

Control statements in c is using to control the flow of execution of program based on certain statements are true or false.

**Conditional statements**

if

If is a conditional statement,using to control the flow of execution of statement.

Syntax

If(expression);

{

Statements;

}

If the expression give in parenthesis [ie,( ) ] is true,then statement will be executed otherwise there is no execution of statement,ie no output.

Eg;

#include<stdio.h>

#include<conio.h>

Void main()

{

Clrscr();

Int x,y;

Printf(“ please enter any two numbers”);

Scanf(“%d%d,&x,&y”);

If(x<y)

{

Printf(“%d is smaller than %d,x,y”);

}

getch();

}

**If else**

Syntax:

If(expression);

{

Statement 1;

}

Else

{

Statement 2;

}

If the expression in bracket is true,then statement 1 will be executed,if the expression is false statement 2 will be executed.

Eg:

#include<stdio.h>

#include<conio.h>

Void main()

{

Clrscr();

Int x,y;

Printf(“ please enter any two numbers”);

Scanf(“%d%d,&x,&y”);

If(x<y)

{

Printf(“%d is smaller than %d,x,y”);

}

Else

{

Printf(“%d is smaller than %d,y,x”);

}

getch();

}

**Nested if**

Syntax:

If(expression 1)

{

Statement 1;

}

Else if(expression 2)

}

Statement 2;

}

Else

{

statement 3;

}

If the expression 1 is true then statement 1 will executed .

other wise control jump to expression 2 without executing statement 1. then computer will check expression 2,if it is true statement 2 will executed.otherwise expression 3 will executed.

If(expression 1)

{

Statement 1;

}

Else if(expression 2)

}

Statement 2;

}

.

.

.

.

}

Else

{

statement \*;

}

We can use multiple number of “else if” based on our requirement.

Eg:

#include<stdio.h>

#include<conio.h>

Void main()

{

Clrscr();

Int x,y;

Printf(“please enter any two numbers”);

Scanf(“%d%d”,&x,&y);

If(x==y)

{

Printf(“%d is equal to %d”,x,y);

}

Else if(x<=y)

{

Printf(“%d is smaller than %d”,x,y);

}

Else

{

Printf(“%d is larger than %d”,x,y);

}

getch();

}

**Looping statements**

Looping statements are using to execute no.of statements repeatedly until some conditions get satisfied.

**For loop**

**Syntax:**

**For (initialization expression;test expression;update expression)**

**{**

**Body of loop**

**}**

Loop will start with initialization expression.then the test expression is checked .if test expression is true then body the loop will be executed.body of the loop contain no.of statements need to be executed.after execution of body,program control will go to update expression.

**M2**

* **INTEGERS: ……-3,-2,-1,0,1,2,3,…**
* **NATURAL NUMBERS: 1,2,3,4,…**
* **WHOLE NUMBERS: 0,1,2,3,….**
* **PRIME NUMBERS:prime numbers are the numbers which can be divided by using the 1 and them self**

**2,3,5,7,11…..**

* **REAL NUMBERS: number which include rational numbers (it include integers and fractional numbers(2.2,3.4…)) and irrational numbers(22/3,4/6..)**
* **FIBONACCI SERIES: 0,1,1,2,3,5,8,13…**
* **Program to add digits of an integer.**

**#include <stdio.h>**

**#include <conio.h>**

**Void main()**

**{**

**Clrscr();**

**Int x,a,r=0;**

**Printf(“enter number\n”);**

**Scanf(“%d”,&x);**

**do**

**{**

**a=x%10;**

**r=r+a;**

**x=x/10;**

**}**

**While(x!=0);**

**Printf(“%d\n”,r);**

**getch();**

**}**

* **Program to find reverse of a number.**

**#include <stdio.h>**

**#include <conio.h>**

**Void main()**

**{**

**Clrscr();**

**Int x,d,rev=0;**

**Printf(“enter number\n”);**

**Scanf(“%d”,&x);**

**do**

**{**

**d=x%10;**

**rev=rev\*10+d;**

**x=x/10;**

**}**

**While(x!=0);**

**Printf(“%d\n”,rev);**

**getch();**

**}**

* **Program to check palindrom.**

**#include <stdio.h>**

**#include <conio.h>**

**Void main()**

**{**

**Clrscr();**

**Int x,d,rev=0;**

**Printf(“enter number\n”);**

**Scanf(“%d”,&x);**

**X=b;**

**do**

**{**

**d=x%10;**

**rev=rev\*10+d;**

**x=x/10;**

**}**

**While(x!=0);**

**If(rev==b)**

**Printf(“the given number is palindrome\n”);**

**Else**

**Printf(“the given number is not palindrome\n”);**

**getch();**

**}**

**(we can use any loops to find reverse and check palindrome,body of the loop is always same)**

* **Program to print N number fibonacci series (ie, 0,1,1,2,3,5,8,13…..)**

**#include <stdio.h>**

**#include <conio.h>**

**Void main()**

**{**

**Clrscr();**

**Int n,a=1,b=0,I,c=0,i;**

**Printf(“enter limit\n”);**

**Scanf(“%d”,&n);**

**Printf(“fibenocci series\n”);**

**For(i=0 ;i<=n; i++)**

**{**

**Printf(“%d”,c);**

**C=a+b;**

**a=b;**

**b=c;**

**}**

**Getch();**

**}**

* **Program to print fibonacci series up to a value limit (ie, 0,1,1,2,3,5,8,13…..)**

**#include <stdio.h>**

**#include <conio.h>**

**Void main()**

**{**

**Clrscr();**

**Int n,a=0,b=1,I,c=0,i;**

**Printf(“enter limit\n”);**

**Scanf(“%d”,&n);**

**Printf(“fibenocci series\n”);**

**For(i=0 ;c<=n; i++)**

**{**

**Printf(“%d”,c);**

**a=b;**

**b=c;**

**C=a+b;**

**}**

**Getch();**

**}**

* **Program t find factorial**

**#include <stdio.h>**

**#include <conio.h>**

**Void main()**

**{**

**Clrscr();**