CCA-101: Fundamentals of IT Programming

Q.No1:→ Write a Programme in C to display your Name and address on Computer Screen.

Ans:→
```
#include <Studio.h>
Void main(){
Printf("\n Dr Sheelesh Kumar Sharma"); // it displays the String inside quotation on Computer Screen.
Printf("\n IMS Ghaziabad"); // it displays the String inside quotation on Computer Screen.}
```

output

Dr Sheelesh Kumar Sharma
IMS Ghaziabad.

Q.No2:→ Write a Programme in C add two integar numbers.

Ans:→
```
#include <Stdio.h>
Void main(){
int n1, n2, Sum; // it declares three variables n1, n2 and Sum as integer type
Printf("Enter two integer numbers:");
Scanf("%d", &n1, &2); // it reads two numbers that are stored in variables n1 and n2 respectively
Sum = n1 + n2; // Calculating Sum
Printf("Sum = %d", Sum); // it displays the value of Sum }
```

output

Enter two integer numbers: 10 20
Sum = 30.

Q.NO3:→ write a programme in C to computes the value of x in this expression $x = 20/(8-4)*8-2$.

Ans:→
```
# include Studio <Stdio.h>
  Void main(){

int x;
x=20/(8-4)*8-2;
Printf("x=%d";x); // it displays the value of x
}
```

output

x=38.

Q.NO4:→ Write a Program in C to Compute a quotient and remainder.

Ans:→
```
# include<Stdio.h>
  Void main(){
int dividend, divisor, quotient, remainder; // it declares variables as integer type Printf("Enter dividend:");
Scanf("%d", &dividend): // it reads the value of dividend.
Printf("Enter divisor:") // it reads
Scanf("%d", &divisor); // it reads the value of divisor
quotient= dividend/divisor; // it computes quotient.
remainder = dividend % divisor; // it computes
Printf("Quotient=%d\n", quotient); // it displays the value of quotient
Printf("Quotient("remainder=%d", remainder); // it displays the value of remainder }
```

Output

Enter dividend: 20
Enter divisor: 3
Quotient = 6
Remainder = 2.

Q.No5:- write a Program in C to Swap the value of two integer numbers.

Ans:- Swap numbers using temporary variables

```
#include<stdio.h>
Void main() {
int n1, n2, temp;
n1=10;
n2=20;
temp=n1, //value of n1 is assigned to temp.
n1=n2; //value of n2 is assigned to n1.
n2=temp; //value of temp (initial value of n1) is
assigned to n2.
Printf("\n After Swapping, n1 Number = %d", n1);
Printf("\n After Swapping, n2 Number = %d", n2);
}
```

Output

After Swapping, n1 Number = 20.
After Swapping, n2 Number = 10.

In the above Program, the temp variables is assigned the value of the n1 variables. Then the value of the n1 variables is assigned to the n2 variable.

Finally, the temp (which holds the initial value of n1) is assigned to n2. This completes the swapping process.

Swap numbers without using temporary variables.

```
#include <Stdio.h>
Void main(){
int n1, n2;
n1 = 40;
n2 = 10;
//Swapping
n1 = n1 - n2;      //n1 = 40-10 So n1 = 30.
n2 = n1 + n2;      // n2 = 30+10 So n2 = 40.
n1 = n2 - n1;      // n1 = 40 - 30 So n1 = 10.
Printf("\n After Swapping, n1 Number = %d", n1);
Printf("\n After Swapping, n2 Number = %d", n2);
}
```

Output

After Swapping, n1 Number = 10.
After Swapping, n2 Number = 40.

Q.No6:→ Write a program to find the largest of three numbers.

Ans:→

```
#include<Stdio.h>
Void main(){
int n1, n2, n3, largest;
Printf("Enter three different numbers:");
Scanf("%d %d %d", &n1, &2, &n3);
```

```
if (n1>n2)
largest =n1
else
largest = n2;
if (n3>=largest)
   largest = n3;
Printf("largest numbers is %d", largest);
}
```

Output

Enter three numbers = 30 20 40.
largest number is 40.

Q.No7:⇒ Write a program to check whether a integer number is even or odd?

Ans:⇒

```
#include<stdio.h>
void main(){
int num;
Printf("Enter a number:");
Scanf("%d", &num);
if (num % 2) == 0){
   Printf("Even number");
else
   Printf("odd number");
}
```

Output 1

Enter a number: 12
Even number

Output 2 ⇒ Enter a number: 11 odd number.

Q.No8:⇒ Write a program to display table of any integer number?

Ans:⇒
```
# include <Stdio.h>
 void main() {
 int n, i;
Printf("Enter an integer: ");
Scanf ("%d", &n);
for(i=1; i<=10; ++i) {
Printf("%d * %d = %d \n", n, i, n*i);
}
}
```

Out Put

Enter an integer: 9
9 * 1 = 9
9 * 2 = 18.
9 * 3 = 27.
9 * 4 = 36
9 * 5 = 45
9 * 6 = 54
9 * 7 = 63
9 * 8 = 72
9 * 9 = 81
9 * 10 = 90

Q.No9:⇒ Write a Program to display first seven ten terms of the Fibonacci Sequence?

Ans:-)

The Fibonacci Sequence: 0, 1, 2, 3, 5, 8, 13, 21, 34.
The Fibonacci Sequence is a Sequence where the next term is the Sum of the Previous two terms.
The first two terms of the Fibonacci Sequence are 0 followed by 1.

```
# include <stdio.h>
void main() {
int i, n, t1=0, t2=1, nextTerm;
Printf("Enter the number of terms:");
Scanf("%d", &n);
Printf("Fibonacci Series:");
for (i=1, <= n; ++i) {
Printf("%d,", t1);
next-term = t1 + t2;
t1 = t2;
t2 = nextTerm;
}
}
```

output

Enter the number of Term: 10
Fibonacci Series: 0, 1, 2, 3, 5, 8, 13, 21, 34.

Q.No 10:→ Write a Program to calculate the Sum of digits of an integer number.

Ans:→
```
# include <stdio.h>
Void main () {
int n, Sum = 0, digit;
Printf ("Enter an integer: ");
Scanf ("%d", &n);
while (n! =0) {
digit = n % 10;
Sum = Sum + digit;
n = n / 10;
}
Printf ("Sum of the digits = %d", Sum);
}
```

outPut

Enter an integer: 142.
Sum of the digits = 7.

This Program takes an integer input from the user 142. The while loop is used until 'n!=0' is false. In each iteration of the loop, each digit (using digit = n % 10) when n is divided by 10 is ~~called~~ calculated integer number is Computed using Sum + digit.

Q.No 11:→ Write a Program to reverse an integer number.

Ans:→
```
# include <stdio.h>
Void main () {
```

```
int n, rev=0, digit;
Printf("Enter an integer: ");
Scanf("%d", &n);
while (n!=0) {
digit = n % 10;
rev = rev * 10 + digit;
 n = n/10;
 }
Printf("Reversed number = %d", rev);
}
```

Output

Enter an integer: 345.
Reversed number = 543.

This Program takes an integer input from the user 345. The while loop is used until n!=0 is ~~false~~ false. In each iteration of the loop, the digit (digit = n % 10), when n is divided by 10 is calculated and the value of n is reduced by 10 times (n = n/10). Inside the loop, the reversed number is computed using: rev = rev * 10 + digit.

Q No12:- Write a program to calculate factors of a positive integer?

Ans:-
```
#include <stdio.h>
void main(){
int num, i;
Printf("Enter a Positive integer: ");
Scanf("%d", &num);, i;
```

```
Printf("Factors of %d are: ", num);
for(i=1; i<=num; ++i) {
  if(num%i==0) {
  Printf("%d", i);
    }
  }
}
```

output

Enter a Positive integer: 10

Factors of 10 are: 1 2 5 10.