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CCA-101: Fundamentals of IT and Programming

"DO it yourself" Assignment with Solutions

Q.1. Write a program in C to display your name and address on computer Screen.

Ans. ⇒
```
# include < Stdio.h >
Void main ( ) {
Printf ("\n Dr Sheelesh kumar Sharma"); // it displays the string inside quotation on computer Screen
Print ("\n IMS Ghaziabad"); it displays the string inside quotation on computer Screen
```
output

Dr Sheelesh kumar Sharma
IMS Ghaziabad

Q.2. Write a program in C to add two integer numbers

Ans ⇒
```
# include < Stdio.h >
int n1, n2, Sum ; // it declares three Variable n1, n2 and Sum as integer type
Printf (" Enter two integer number; ");
Scanf ("%d %d" &n1 &n2 ); // it reads two numbers that are stored in Variables n1 and n2 respectively
Sum = n1 + n2; // Calculating Sum
printf (" Sum = %d", Sum ); // it display the Value of Sum )
```
output

Enter two integer numbers : 10 20
Sum = 30

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Q.3. Write a program in C to compute the value of x in this expression $x = 20 / (8-4) * 8 - 2$

Ans ⇒
```
# include < 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.4. Write a program in C to compute a quotient and remainder

```
# 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:") ;
Scanf (" %d", & divisor); // reads the value of divisor
quotient = dividend / divisor; // it computes quotient
 remainder = dividend % divisor; // it computes remainder
printf (" Quotient = % d\n", quotient); // it displays the
Value of quotient
printf (" Remainder = % d", remainder); // it displays the
Value of remainder }
```
output
Enter dividend: 20
Enter divisor : 3
Quotient = 6
Remainder = 2

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Q.5 Write a program in C to Swap the value of two integer numbers

Ans ⇒ Swap numbers using temporary Variable

```
# include < stdio.h >
Void main() {
int n1, n2, temp;
~~odd number~~ 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 Variable is assigned the value of the n1 Variable. Then, the value of the n1 Variable is assigned to the n2 Variable. finaly, the temp (which holds the initial value of n1) is assigned to n2. This computetes the Swapping process.

Swap numbers without using temporary Variables

```
# include < stdio.h >
Void main() {
int n1, n2;
n1 = 40
```

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```
n2 = 10;
// Swapping
n1 = n1 - n2;   // n1 = 40-10 So n1 = 30
n2 = n1 + n2;   // n1 = 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, n1 Number = 40

Q.6:- Write a program to find the largest of three number

Ans⇒

```
# include <stdio.h>
Void main ()
{
int n1, n2, n3 largest;
printf ("Enter three different numbers: ");
Scanf ("%d %d %d", &n1, &n2, &n3);
if (n1 > n2)
largest = n1;
else
largest = n2;
if (n3 >= largest
largest = n3;
printf ("Largest number is %d", largest);
}
```

output

Enter three numbers : 30 20 40
Largest number is 40

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Q.7 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.8. 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 ; i <= 10 ; ++i) {
printf ("%d * %d = %d \n", n, i n * i); //
```
output
Enter an integer : 9

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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.9. Write a program to display first ten terms of the fibonacci Sequence.

Ans.⇒ The fibonacci Sequence: 0, 1, 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; i <= n; ++i) {
 printf ("%d, ", t1);
 nextTerm = t1 + t2;
 t1 = t2;
 t2 = nextTerm;
 }
```

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output
Enter the numbers of terms : 10
fibonacci Series : 0, 1, 2, 3, 4, 5, 8, 13, 21, 34,

Q. 10. Write a program to calculate the sum of digits of an integer number.

Ans. 10.
```
# 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 calculated and the value of n is reduced by 10 times (n = n / 10). Inside the loop, the Sum of digits of an integer number is computed using Sum = Sum + digit

Q. 11. Write a program to reverse an integer number

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Ans. 11.
```
# include <stdio.h>
Void main()
{
int n, rev = 0, digit;
printf ("Enter an integer:");
Scanf ("%d", &n);
While (n != 0)
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 until n != 0 is false. In each iteration of the digit (digit = n % 10), When n is divided by 10 is calculated and the value of ~~the loop~~ n is reduced by 10 times (n = n / 10), Inside the loop, the reversed number is computed using : rev = rev * 10 + digit.

Q.12. Write a program to calculted factors of a positive integer.

Ans.
```
# include <stdio.h>
Void main () {
int num i;
Printf ("Enter a positive integer : ");
Scanf ("%d", &num);
printf (factors of %d are"; num); for (i = 1; i <= num
++ i) { if (num % i == = 0) {
printf ("%d" i);
```

Signature.....