

CCA-101: Fundamentals of it & Programming

"Do it yourself" Assignment with solutions

Q1 No 1. Write a program in C to display your name and address on computer screen

Solution 1 #include <stdio.h>

void main() {

printf("In Dr Sheelesh Kumar Sharma"); // it displays the string inside quotations on computer screen

printf("In IMS Chhazabad"); // it displays the string inside quotation on computer screen

}

2 Write a program in C to add two integer numbers

Solution #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 %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 displays the value of sum

Output

Enter two integer numbers: 10 20
sum = 30

Q3 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

Q4 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", ÷nd); // it reads the value of dividend

Printf ("Enter divisor:");

scanf ("%d", &divisor); // it 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

Signature.....

Value of quotient

```
printf ("Remainder = %d", remainder); // it displays  
the value of remainder }
```

output

Enter dividend : 20

Enter divisor : 3

Quotient = 6

Remainder = 2

Q05 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;
```

```
    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 ("In After Swapping, n1 Number = %d", n1);
```

```
    }
```

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 h2 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

Ques 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, &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

Q7 Write a program to Check whether a integer num
-ber 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

out put 2

Enter a number : 11

Odd Number

Q8 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); }
 }

output

Enter an integer : 9

9 x 1 = 9

9 x 2 = 18

9 x 3 = 27

9 x 4 = 36

9 x 5 = 45

9 x 6 = 54

9 x 7 = 63

9 x 8 = 72

9 x 9 = 81

9 x 10 = 90

Q9 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

Signature.....

term.

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; }
```

Output

Enter the number of terms; 10

Fibonacci Series. 0, 1, 1, 2, 3, 5, 8, 13, 21, 34,

Q10 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

This Program takes an integer input from the user 142. The while loop is used until $n \neq 0$ is false. In each iteration of the loop, each digit (using $\text{digit} = n \% 10$) 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 $\text{sum} = \text{sum} + \text{digit}$.

Q11. 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);
```

```
}
```

out put

Enter an integer: 345

Reversed number = 543

This program takes an integer input from the user 345. The while loop is used until $n \neq 0$ is false. In each iteration of the loop, the digit ($\text{digit} = n \% 10$), 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 $\text{rev} = \text{rev} * 10 + \text{digit}$.

Q12 Write Program to ~~also~~ calculate 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);

}

}

}

out put

Enter a positive integer : 10

Factors of 10 are: 1 2 5 10