CCA-101: Fundamentals of IT & Programming

"Do it yourself" Assignment with Solutions

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

Q. No. 2: Write a program in C to add two integer numbers

Q.No. 3: Write a program in C to compute the value of x in this expression x= 20/(8-4)*8-2

Q.No. 4: Write a program in C to compute a quotient and remainder

Q.No. 5: Write a program in C to swap the value of two integer numbers

Q. No. 6: Write a program to find the Largest of three numbers

Q. No. 7: Write a Program to check whether a integer number is even or odd.

Q.No. 8 Write a program to display table of any integer number.

Q. No. 9 Write a program to display first ten terms of the Fibonacci sequence.

Q. No. 10 Write a program to calculate the sum of digits of an integer number.

Q. No.11 Write a program to reverse an integer number.

Q. No.12 Write a program to calculate factors of a positive integer.

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Sharma Institute of Computer Education Bara (U.S.Nagar) UK

Write a program in C to displaying your name and address on computer screen.

```
- # include < studio.h > # include <string.h> int main()

{
 Char name [20], address [80];
 Printer ("Enter your name:");
 gets (name);
 Print f("Enter your name:");
 gets (address);

 Print f("= = = = = = = = = = = = = = = = = = = = = = = = = \n");

 Print f(" your name : %S/n", name);
 Print f("your address : % s \n ", address);
 Print f("= = = = = = = = = = = = = = = = = = = = = = \n");

 return 0;
}.
```

Write a program in C to add two integer numbers.

12. Write a program that adds two integers.

Certainly Here's a simple C program that adds two integers.

```
Ans :) # include < studio.h >

 int main (). {

 Int num1, num 2, num 3

 // Ask the user for two integers
 print f6("Enter the first integer: ");
 scanf ("%d", & num1);
```

```
printf("Enter the second integers : ");
scanf("%d", &num2);

// Add the numbers
sum = num1 + num2;

// Display the result
printf("The sum of %d and %d is %d\n", num1, num2, sum);
return 0;
}
```

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

Ans:- To compute the value of (x) in the expression ($x = \frac{200}{(8-4)} \times 8-2$) using C, ~~you can follow~~ order of operations (parentheses, multiplication and division from left to right, and the addition and subtraction).

C

```
#include <stdio.h>

int main(){
    // Declare the variable to hold the result double x;
    // Calculate the value of x using the given expression
    x = 200.0 / (8-4) * 8-2;
```

```
9
10 // print the result
11 Printf("The value of x is: %.2f\n", x);
12
13 return 0;
14 }
```

Write a program in C to complete a quotient and rethainder.

*) C program that computer the quotient and remainder

```
C
#include <studio.n1
int main (){
    int dividend, division, quotient, remainder,
// Input the dividend and divisor
Print F ("Enter the dividend: "),
Scan F ("%d", & divisor);

Print F ("Enter the divisor : "),
Scan f("% d , & divisor};

// check if divisor is zero to avoid division by zero error
if (divisor = = 0){

    Print ("Error! Divison by zero is not allowed.\n");
// compute quotient and remainder
quotient = dividened /divisor;
remainder = dividend % divisor;
```

```
// output the results
Print F("Quotient : %d \n", quotient);
Print F("Remainder : % d \n", remainder);
}
return 0;
```

Write a program in C to swap the value of two integer numbers.

:) C program to swap the values of two integer numbers using a temporary variable:

```
C
# include <studio.n>
int main (){
    int a, b, c, temp;
// Input the values of a and b
Print f("Enter the value of a :");
Scan f(" %d", &a)
Print f( Enter the value of b :");
Scan F( " %d ", &b);
// Display the values before swapping
Print F("\n Before swapping :\n");
Print F("a = %d, b = %d \n", a, b);
// Swapping using a temporary variable
   temp = a
```

```
a = b
b = temp;
// Display the values after swapping
Print f("\n after swapping :\n");
Print f("a = %d, b = %d \n", a, b),
return 0;
}.
```

. Write a program to find largest of three numbers.

:) Python program to find the largest of three numbers.

Python

```
# Function to find the largest of three numbers def find_
  largest (a, b, c):
    if a >= b = b and a >= c :
        return a
    elif b >= a and b >= c :
        return b
    else :
        return c
# Taking input from the user
num 1 = Float (Input ("Enter the first number : "))
num 2 = Float (input ("Enter the second number :"))
num 3 = Float (input (" Enter the third number :"))
```

Calling the function and displaying the result

```
largest = find_ largest (num, num2, num3)
Print (" The leargest number is : ", largest)
```

. Write a program to check whether a interger number is even or odd.

:) Python that cheeks whether an interger number is even or odd:

Python

```
1 def check_ even_ odd(number):
2 if number % 2 = 0:
3 return " Even "
4. else:
5 return " odd "
6
7 # Input from the user
8 try:
9 user_ input = int (input (" Enter and integer number : "))
10 result = check_ even_odd (user_ input)
11 Print (F" The number { user - input is { result }. " }
12 except value error
13 Print (" Please enter a valid integer. ")
```

6. Write a program to display table of any integer numbers:

a) Python program that display the multiplication table for any integer number provided by the user

Python

```
def display_multiplication_table(number, limit = 10):
Print(F"multiplication Table for {number}:")
for i in range(1, limit + 1):
Print(F"{number} x {i} = {number * i}")

# Input from the user
try:
user_input = int(input("Enter an integer number:"))
display_multiplication_table(user_input)
except value Error:
Print("please enter a valid integer.").
```

7. Write a program to display first ten terms of the fibonacci sequence.

a) C

```
#include <studio.h>
  int main() {
      int i, n = 10;
      long long fib1 = 0, fib2 = 1, next Term;
Print F("The first 10 terms of the fibonacci Sequence are: \n");
```

```
// print ("The first two terms of the fibonacci sequence
Print ("%d, %d", fib1, fib2);
// Loop to generate the next terms
for (i=3, i<n; i++){
next Term = fib1 + fib2; // calculate the next term
Print (", %d", next Term);
// For Formating Print a comma after each term except the last one
 if (i<n){
     Print (", ");
}
 // Update the previous two terms.
    fib1 = fib2
    fib2 = next term;
}
 // update the previous two terms
     fib1 = fib2
     fib2 = next term;
}
 Print ("\n");
} return 0;
```

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

) Python Program that calculates the sum of the digits of an integer number. you can run this code in any python environment.

Python.

```
def sum_of_digits (numbers):
# convert the number to a string to interate over each digits.
# use abs () to handle negative numbers.
return sum (int (digit) for digit in str (abs (number))).

# Input from the user
try:
user_input = int (input ("Enter an integer number: "))
result = sum_of_digits (user_input)
Print (F" The sum of the digits of {user_input} is: {result}")

except Value error.
Print (" Please enter a valid integer. ")
```

. Write a program to reverse an integer number.

b) Python program to reverse an integer numbes

Python

```
def reverse_interger (n):
# Handle negative number
  sign = -1 if n<0 else 1
  n: abs(n)
reversed_number = 0
while n!=0:
  digit = n %10
# Apply the sign of the original number
  return sign * reversed_number
# Test the function
num= int (input ("Enter an integer: "))
reversed_num = reverse_integer (num)
Print ("Reversed integer: ", reversed_num)
```

Q12. Write a program to calculate factors of a pasitive integer.

Ans:) Python Program to calculate the factors of a positive integer.

Python.

```
def find_factory (n):
    factors = []
    for i in range (1, n+1):
```

```
if n % i == 0
    factors.oppenel(i)
return factors

# Test the functions
num = int(input("Enter a positive integer: "))
    if num > 0:
        factors = find_factors(num)
        Print(F"factors of {num}: {factors}")
    else:
    Print("Please enter a positive integer.")).
```