CCA-101: Fundamentals of IT & Programming
ASSIGNMENT

Name: Chinkhenthang Samte

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

Ans.:

```
#include <stdio.h>
void main() { printf("\n Chinkhenthang Samte");// it displays the string inside quotation on computer screen
printf("\n Manipur"); // it displays the string inside quotation on computer screen }
```

Output:

Chinkhenthang Samte
Manipur

Q2. Write a program in C to add two integer 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 %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 expressionx= 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", &dividend); // 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 value of quotient
printf("Remainder = %d", remainder); // it displays the value of remainder }
```

Output:

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

Q5. 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("\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. 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
```

Q6. 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 number is even orodd.

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
```

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 * 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
```

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 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;
}
}
```

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 rnumber
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 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

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);
}
```

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. 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.

Q12. 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);
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

- End -