STRUCTURED PROGRAMMING

Lab Assignment-1

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SECTION: *C*

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1. Write a C program that will print your name.

```
//program to print my name
#include<stdio.h> int main()
{
    printf("Name: Ashraful Quaiyum Chowdhury Shafi");    return
0;
}
```

2. Write a C program that will print your name, your father and mother name in three separate lines.

```
//program to print my name and father's and mother's name in three separate lines
#include<stdio.h> int
main()
```

```c
{
    printf("Name: Ashraful Quaiyum Chowdhury Shafi \n");
printf("Father's name: Abdul Quaiyum Chowdhury\n");
printf("Mother's name: Shahnaz Chowdhury\n");    return 0;
}
```

3. Write a C program that will print the sum of two variables a and b; where a = 10 and b = 20.

```c
//program to print sum of two variables
#include<stdio.h> int
main()
{
    int a=10,b=20;
printf("sum=%d",a+b);    return 0;
}
```

4. Write a C program to calculate sum of two integer numbers (given by the user) and print it.

```c
//program to calculate sum of two integer numbers (given by the user)
#include<stdio.h> int
main()
{
    int a,b;    printf("Enter two
numbers:");    scanf("%d
%d",&a,&b);
printf("sum=%d",a+b);    return 0;
}
```

5. Write a C program that will take three numbers from user and find their average.

```c
//program that will take three numbers from user and find their average.
#include<stdio.h> int
main()
{
    float a,b,c,sum,avg;    printf("Enter
three numbers:");    scanf("%f %f
%f",&a,&b,&c);    sum=a+b+c;
avg=sum/3;
    printf("average=%.2f",avg);    return
0;
}
```

6. Write a C program that will take three integer as input from user and print their average. (You should use type-cast to get proper result)

//C program that will take three integer as input from user and print their average.(using type cast)

```c
#include<stdio.h> int
main()
{
    int a,b,c,sum;    float avg;
printf("Enter  three numbers:");
scanf("%d %d %d",&a,&b,&c);
sum=a+b+c;    avg=(float)sum/3;
printf("average=%.2f",avg);    return
0;
}
```

7. Write a C Program to convert Km value into meter value.

//Program to convert Km value into meter value.

```c
#include<stdio.h> int
main()
{
```

```
    float a;    printf("Enter km
value:");    scanf("%f",&a);
a=a*1000;
    printf("Meter value=%.2f",a);


    return 0;
}
```

8. Write a C Program to convert Celsius value into Fahrenheit value.

```
//Program to convert Celsius value into Fahrenheit value.
#include<stdio.h> int
main()
{
    float c,f;    printf("Enter celsius
value:");    scanf("%f",&c);
f=(9*c)/5+32;    printf("fahrenheit
value=%.2f",f);    return 0;
}
```

9. Write a C Program to interchange values of two numbers using third variable.

```c
//C Program to interchange values of two numbers using third variable.
#include <stdio.h> int
main()
{
    int var1, var2, temp;    printf("Enter two
numbers:");    scanf("%d %d",&var1,&var2);
temp=var1;    var1=var2;    var2=temp;
printf("After changing value:%d %d",var1,var2);

    return 0;
}
```

10. Write a C Program to interchange values of two numbers without using third variable.

//Program of interchanging two integer numbers without using third variable

```c
#include <stdio.h> int
main()
{
    int var1, var2;    printf("Enter two numbers:");
scanf("%d %d",&var1,&var2);    var1=var1+var2;
var2=var1-var2;    var1=var1-var2;    printf("After
changing value:%d %d",var1,var2);

    return 0;
}
```

11. Write a C program to input two numbers and print their quotient and remainder.

//program to input two numbers and print their quotient and remainder.
```c
#include <stdio.h> int
main()
{
```

```
    int a,b;    printf("Enter two
numbers:");    scanf("%d
%d",&a,&b);
printf("quotient=%d\n",a/b);
printf("remainder=%d\n",a%b);


    return 0;
}
```

12. Write a C Program to accept any character from user and display its ASCII number on screen.

//Program of finding ASCII value from from any user defined character

```
#include <stdio.h> int
main()
{
    char c;    printf("Enter any
character");    scanf("%c",&c);
printf("ASCII value of %c=%d",c,c);
```

return 0;

}

13. Write a C Program to input any ASCII number and display appropriate character on screen.

//Program of printing ASCII character from ASCII value

```c
#include <stdio.h> int
main()
{
    int a;    printf("Enter ASCII value:");
scanf("%d",&a);    printf("ASCII character of
%d=%c",a,a);

    return 0;
}
```

14. Write a C Program to input any Capital letter and display it with small letter.

//Program of converting capital letter to small letter
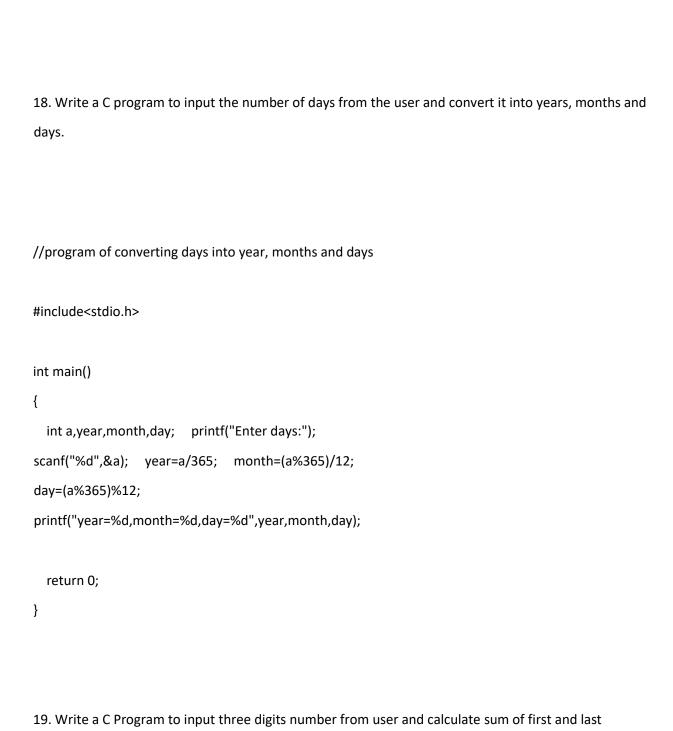
```c
#include <stdio.h>
#include <ctype.h> int
main()
{
   char c,result;    printf("Enter any capital
character:");    scanf("%c",&c);    result=
tolower(c);    printf("result=%c",result);
return 0;
}
```

15. Write a C Program to input any Small letter and display it with capital letter.

//Program to input any Small letter and display it with capital letter.

```c
#include <stdio.h>
#include <ctype.h> int
main()
{
    char c,result;    printf("Enter any small
character:");    scanf("%c",&c);    result=
toupper(c);    printf("result=%c",result);
return 0;
}
```

16. Write a C Program to input any Capital letter and display it with small letter. (without using tolower() function)

//Program to input any Capital letter and display it with small letter. (without using tolower() function)
```c
#include<stdio.h> int
main()
{
```

char a;   printf("enter uppercase

character:");   scanf("%c",&a);   a=a+32;

   printf("lowercase character is:%c",a);

   return 0;

}

17. Write a C Program to input any Small letter and display it with capital letter. (without using

toupper() function)

//Program to input any Small letter and display it with Capital letter. (without using toupper() function)

#include<stdio.h> int

main()

{

   char a;   printf("enter lowercase

character:");   scanf("%c",&a);   a=a-32;

printf("uppercase character is:%c",a);

   return 0;

}

18. Write a C program to input the number of days from the user and convert it into years, months and days.

//program of converting days into year, months and days

#include<stdio.h>

int main()
{
    int a,year,month,day;   printf("Enter days:");
scanf("%d",&a);   year=a/365;   month=(a%365)/12;
day=(a%365)%12;
printf("year=%d,month=%d,day=%d",year,month,day);

    return 0;
}

19. Write a C Program to input three digits number from user and calculate sum of first and last numbers. (Hint : I/p : 358 O/p :11)

```c
//program to find sum of first and last numbers of a three digit number
#include <stdio.h> int
main()
{
    int num, sum=0, firstDigit, lastDigit;    printf("Enter any number
to find sum of first and last digit: ");    scanf("%d", &num);
lastDigit = num % 10;    firstDigit = num;    while(num >= 10)
    {      num = num / 10;
    }   firstDigit = num;    sum = firstDigit +
lastDigit;    printf("Sum of first and last digit =
%d", sum);    return 0;
}
```

20. Write a C Program to input three digits number from user and display square of first and last numbers.(Hint : I/p : 358 O/p : Square of 3 is 9 and Square of 8 is 64)

```c
//program to find square of first and last numbers of a three digit number
#include <stdio.h> int
main()
{
    int num, sum=0, firstDigit, lastDigit;    printf("Enter any number
to find sum of first and last digit: ");    scanf("%d", &num);
lastDigit = num % 10;    firstDigit = num;    while(num >= 10)
    {      num = num / 10;
```

```
    }    firstDigit = num;
firstDigit=pow(firstDigit,2);
lastDigit=pow(lastDigit,2);    printf("square of
first digit=%d\n",firstDigit);    printf("square of
last digit=%d\n", lastDigit);    return 0;
}
```

21. Write a C Program to input two digits number from user and display with reverse number on screen
(Hint : I/P : 32 O/P : 23)

```
//Program to input two digits number from user and display with reverse number on screen

#include<stdio.h> int
main()
{
   int a,b,var1,var2;    printf("Enter number");
scanf("%d",&a);    b=a%10;    a=a/10;
var1=b*10;    var2=a;    printf("after inversing
value=%d",var1+var2);


   return 0;
}
```

22. Write a C program to find out the quotient and remainder of two numbers. (Without using modulus
(%) operator)

//program to find out the quotient and remainder of two numbers. (Without using modulus (%) operator)

```c
#include <stdio.h>
int main()
{
    int divisor,divident,quotient=0,remainder;
    printf("Enter divisor:");
    scanf("%d",&divisor);
    printf("Enter divident:");
    scanf("%d",&divident);
    while (divisor>=divident){
        divisor=divisor-divident;
        quotient=quotient+1;
    }
    remainder=divisor;
    printf("quotient=%d\n",quotient);
    printf("%remainder=%d\n",remainder);
    return 0;
}
```