Lab1:Introductory Concept

Objectives:

*We can learn how to write a simple code and save it in specific directory.
*We can learn how to compile and run a c code.
*We can learn how to detect an error or warning and solve it.

Name of the exp: write a program that can read an integer number from keyboard and display it.

```
#include<stdio.h>
int main()
{
int n;
printf("enter the value of n: ");
scanf("%d",&n);
printf("the value is %d",n);
return 0;
}
```

Name of exp: Write a c code for temperature conversion from Farenhfit to Celsius.

```
#include<stdio.h>
Int main()
{
int f;
float c;
printf("enter the value of f : ");
scanf("%d",&f);
c=(f-32*5/9)*1.0;
printf("the value of c=%f",c);
return 0;
}
```

Name of exp: Write a c program to take four integer calculate their average & display the result.

```
#include<stdio.h>
int main()
{
int a,b,c,d,sum;
float avg;
printf(enter the four enteger");
scanf("%d%d%d%d",&a,&b,&c,&d);
sum=a+b+c+d;
avg=sum/4;
printf("average=");
```

```
return 0;
}
```

Conclusion:

1.learned about the function main(),pintf(),scanf().
2.difference between identifier & variable,
3.learned about basic datatype.

Lab2:operator & expression.

Objectives:
We can learn from lab2 are to:-
*about different type of operators.
*gather knowledge to evaluate expression.

Name of exp:write a c program to convert a given number of days into month and days.

```
#include<stdio.h>
int main()
{
   int d,m,n;
   printf("enter the number of days:");
   scanf("%d",&d);
   m=d/30;
   n=d%30;
   printf("%3d days equal %5d month and %5d days",d,m,n);
   return 0;
}
```

Name of exp:write a c program display number of days in February.

```
#include<stdio.h>
int main()
{
   int feb,y,result;
   printf("enter your year:");
   scanf("%d",&y);
   feb=y%4;
   if(feb==0)
      printf("leap year");
      else
         printf("not leapyear");
      result=(feb==0?29:28);
      printf("\nDay of this year in february:%d",result);
   return 0;
```

```
}
```

Name of exp:write a c program to a check whather a character is alphabet or not.

```
#include<stdio.h>
int main()
{
   char c,result;
   printf("enter a charater:");
   scanf("%c",&c);
   result=((c>='a'&&c<='z')||(c<='Z'&&c>='A'))?1:0;
   if(result==1)
      printf("the entered charater is alphabet");
   else
      printf("entered charater is not alphabet");
   return 0;
}
```

Conclusion:
1.we learned about operator.
2.differentiated among unary,binary&ternary operator.

Lab3:Dicision making&Branching.

Objectives:
We can learn from lab3 are to:-
*introduce with different control or decision making statements.
*learn how they work to make decision in case of a particular condition.

Name of exp:write a c program to do the grading of students on the basic of avg mark.

```
#include<stdio.h>
int main()
{
   int mark;
   printf("enter your mark:");
   scanf("%d",&mark);
   if(mark>=0&&mark<=100){
   if(mark<=100&&mark>=80)
      printf("Honors",mark);
    else if(mark<=79&&mark>=60)
    printf("First Division",mark);
    else if(mark<=59&&mark>=50)
    printf("Second Division",mark);
   else if(mark<=49&&mark>=40)
    printf("Third Division",mark);
    else
```

```
        printf("Fail",mark);
    }
    else
        printf("Error.....");
    return 0;
}
```

Name of exp:write a c program to subtract two number without using subtraction operator.

```
#include<stdio.h>
int main()
{
    int a,b,sub;
    printf("enter the two number:");
    scanf("%d%d",&a,&b);
    sub=a+~b+1;
    printf("substraction is=%d",sub);
    return 0;
}
```

Name of exp:wwrite a program for addition,subtraction,multification and division using switch…..case.

```
#include<stdio.h>
int main()
{
    char o;
    int num1,num2;
    printf("enter either + or - or * or /::");
    scanf("%c",&o);
    printf("enter two number:");
    scanf("%d%d",&num1,&num2);
    switch(o)
    {
    case'+':
       printf("%d+%d=%d",num1,num2,num1+num2);
        break;
    case'-':
         printf("%d-%d=%d",num1,num2,num1-num2);
         break;
    case'*':
         printf("%d*%d=%d",num1,num2,num1*num2);
         break;
    case'/':
         printf("%d/%d=%d",num1,num2,num1/num2);
```

```
        break;
    }
    return 0;
}
```

Conclusion:
1.Leared about what is statement.
2.learned about if….else and if else statement.
3.learned about switch…case statement.
4.difference between if..else and switch..case.

Lab4:Dicision making and Looping.

Objectives:
We can learn from lab4 are to:-
*we can learn about what is loop.
*we can learn how to perform looping statement.

Name of exp:write a c program to check whether a number is palindrom or not.

```
#include<stdio.h>
int main()
{
    int n,reverse=0,rem,temp;
    printf("enter the value of n:");
    scanf("%d",&n);
    temp=n;
    while(temp!=0)
    {
        rem=temp%10;
        reverse=reverse*10+rem;
        temp/=10;
    }
    if(reverse==n)
        printf("%d is a palindrome",n);
    else
        printf("%d is not palindrome",n);
    return 0;
}
```

Name of exp:write a c program to check whether a number is prime or not.

```
#include<stdio.h>
int main()
{
    int b,i,flag=0;
    printf("enter the value of b");
```

```
    scanf("%d",&b);
    for(i=2;i<=b/2;++i)
    if(b%i==0)
    {
       flag=1;
       break;
    }
    if(flag==0)
       printf("%d is prime number",b);
    else
       printf("%d is not a prime number",b);
    return 0;
}
```

Name of exp:write a c program to find greatest common division of two interger.

```
#include<stdio.h>
int main()
{
    int num1,num2,i,hcf;
    printf("enter two integer:");
    scanf("%d%d",&num1,&num2);
    for(i=1;i<=num1||i<=num2;++i)
    {
       if(num1%i==0&&num2%i==0)
          hcf=i;
    }
    printf("common division=%d",hcf);
    return 0;
}
```

Conclusion:
1.we learned for,while and do…while loop.
2.difference between for and while loop.

Lab5:Array

Objectives
We can learn from lab5 are to:-
*we can learn,what is array.
*using array.
*why we use array.

Name of exp:write a c program to find the largest element of an array.

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

```
   int i,n,arr[100];
   printf("enter the number of element:");
   scanf("%d",&n);
   for(i=0;i<n;++i)
   {
     scanf("%d",&arr[i]);
     printf("aar[%d]=%d\n",i,arr[i]);
   }
   for(i=0;i<n;++i)
   {
    if(arr[0]<arr[i])
       arr[0]=arr[i];
   }
   printf("leargest element %d\n",arr[0]);
   return 0;
}
```

Name of exp:write a c program to sort element of an array in ascending order.

```
#include<stdio.h>
int main()
{
   int i,j,n,arr[100],s;
   printf("enter the value of n:");
   scanf("%d",&n);
   for(i=0;i<n;++i)
   {
      scanf("%d",&arr[i]);
      printf("arr[%d]=%d\n",i,arr[i]);
   }
   for(i=0;i<n;++i){
      for(j=i+1;j<n;++j)
   {
      if(arr[i]>arr[j])
      s=arr[i];
      arr[i]=arr[j];
      arr[j]=s;
   }
   }
   for(i=0;i<n;++i)
      printf("%4d,",arr[i]);
   return 0;
}
```

Name of exp:write a c program to multiplying to matrix.

```
#include<stdio.h>
```

```
int main()
{
int a[2][2]={5,4,3,4};
int b[2][2]={5,6,5,6};
int c[2][2],i,j,k,sum;
printf(“matrix a”);
for(i=0;i<2;++i)
{for(j=0;j<2;++j)
printf(“%d\t”,a[i][j]);
}
printf(“matrix b”);
for(i=0;i<2;++i)
{for(j=0;j<2;++j)
printf(“%d\t”,b[i][j]);
}
printf(“multiplication of a and b”);
for(i=0;i<2;++i)
{for(j=0;j<2;++j)
{
sum=0;
for(k=0;k<2;++k)
sum+=a[i][k]*b[k][j];
c[i][j]=sum;
printf(“%d\t”,a[i][j]);
}
}
Return 0;
}
```

Conclusion:

1.learned about array and array elemenl.

2.learned how to multiply two matrix.

Lab6:String

Objective:

We can learn from lab6 are to:-

*what is string.

*we can learn how to the character array is used in string.

*different types of function in string.

Name of exp: write a c program toconcatenate three strings.

```
#include<stdio.h>
#include<string.h>
int main()
{
  char str1[100],str2[100],str3[100];
```

```
  printf("enter first string");
  gets(str1);
 printf("enter second string");
  gets(str2);
  printf("enter third string");
  gets(str3);
  printf("%s",strcat(str1,strcat(str2,str3)));
  return 0;
}
```

Name of exp:write a c program to compare two strings.

```
#include<stdio.h>
#include<string.h>
int main()
{
  char str1[100],str2[100];
  printf("enter first string\n");
  gets(str1);
 printf("enter second string\n");
  gets(str2);
  if(strcmp(str1,str2)==0)
    printf("entered strings are equal");
    else
        printf("entered strings are not equal");
  return 0;
}
```

Name of exp:write a c program to chack a string is palindrome or not.

```
#include<stdio.h>
#include<string.h>
int main()
{
    char st1[100],st2[100];
    printf("enter the string\n");
    gets(st1);
    strcpy(st2,st1);
    strrev(st2);
    if(strcmp(st1,st2)==0)
        printf("entered string is palindrome");
    else
        printf("entered string is not palindrome");
    return 0;
}
```

Conclusion:

1.we learned different types of function such as strcmp(),strcpy(),strrev etc.
2.we can duplicate a string by using styrdup() function.

Lab7:Function

Objectives:
We can learn from lab7 are to:-
*we can learn built in and user define function.
*learn about prototypes and parameters.

Name of exp:write a c program to covert lower case into upper case.

```
#include<stdio.h>
int uppercase(char ch)
{
   if(ch<='z'&&ch>='a')
      return('A'+ch-'a');
   else
      return ch;
}
int main()
{
   char ch;
   printf("enter a character: ");
   scanf("%c",&ch);
   printf("upper case is %c",uppercase(ch));
   return 0;
}
```

Name of exp:write a c program to calculate factorial of an integer entered by keyboard.

```
#include<stdio.h>
int fact_n(int n)
{
  if(n<=1)
  return (1);
   else
   return(n*fact_n(n-1));
}
int main()
{
   int n;
   printf("enter the value of n:");
   scanf("%d",&n);
   printf("factorial of n=%d",fact_n(n));
   return 0;
}
```

Name of exp:writw a cprogram to get gcd in two integers.

```
#include<stdio.h>
int get_gcd(int a,int b)
{
   int gcd;
   while(b!=0)
   {
      gcd=a%b;
      a=b;
      b=gcd;
   }
   return a;
}
int main()
{
   int x,y,g;
   printf("enter the value of x and y");
   scanf("%d%d",&x,&y);
   g=get_gcd(x,y);
   printf("The gcd=%d",g);
   return 0;
}
```

Conclusion:

1.we learned about recursive function,call in function.
2.learned function prototype.
3.learned about function calling.

**********THE END**********