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Hi,
Nice to meet you. I am Prince Billy Graham Karmoker.

This codes are 100% tested. You can clone or view the source codes from my Github ID. Her is the link:

[Click Here](#)

Please Note That:

Ther are some problems for which I have created multiple solution. You have to select one of the for that.

Make Algorithm yourself. Dont ask me for algorithm and output.

See the codes and make the algorithm yourself. Run the codes cloned from my github repository to get the sample input and output.

Remember That u don't need to write 3.f no problem for labreport. It is added for learning. You have to make report for only 25 codes.

1.a.txt

```
/*Write a program to find the area of a circle. (Use  $\pi$  as a symbolic constant)*/
#include<stdio.h>
//Constant
#define pi 3.1416
int main(){
    float area , rad;
    printf("Please enter the radius of ther circle:\t");
    scanf("%f",&rad);
    area=pi*rad*rad;
    printf("Area is %f",area);
    return 0;
}
```

1.b.txt

//Write a program to convert the given temperature in Fahrenheit to Celsius and vice versa

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

```
#include<stdlib.h>
```

```
int main(){
    int run;
    float cel, fer;
    x:
    printf("Press 1: Convert Celsius to Fahrenheit\nPress 2: Convert Fahrenheit to Celsius\nPress 3: Terminate\n");
    scanf("%d",&run);
    switch(run){
        case 1: printf("Enter Value(Celsius):\t");
                scanf("%f",&cel);
                fer=cel*9/5+32;
                printf("In Fahrenheit: %f\n",fer);
                break;
        case 2: printf("Enter Value(Fahrenheit):\t");
                scanf("%f",&fer);
                cel=(fer-32)*5/9;
                printf("In Celsius: %f\n",cel);
                break;
        case 3: exit(1);
        default:printf("Wrong Input\n");
                goto x;
    }
    goto x;
}
```

1.c.txt

```
//Write a program to find the all-possible of a quadratic equation.
#include<stdio.h>
#include<math.h>
int main(){
    float a,b,c,x1,x2,d;
    //d=Determinant

    printf("Enter the value of a,b,c:\t");
    scanf("%f %f %f",&a,&b,&c);

    d= b*b-4*a*c;

    if(d>0){
        x1=(-b+sqrt(d))/(2*a);
        x2=(-b-sqrt(d))/(2*a);
        printf("x1=%f\nx2=%f\n",x1,x2);
    }

    else if(d==0){
        x1=x2=-b/(2*a);
        printf("x1=%f\nx2=%f\n",x1,x2);
    }

    else
        printf("Roots are not possible numbers");

    return 0;
}
```

1.d.txt

```
/*Write a program that takes a floating-point number as input and display the
floating point
and integer part separately*/
#include<stdio.h>
int main(){
    float input,floatPoint;
    int integer;

    printf("Enter a floating number:\t");
    scanf("%f",&input);
    integer=input;
    floatPoint=input-integer;
    printf("Integer Parts: %d\nFloating point: %f",integer,floatPoint);

    return 0;
}
```

1.e.txt

```
/*Write a program to find the factorial of an integer.*/  
#include<stdio.h>  
int main(){  
    int input,fact=1,i;  
    printf("Enter an input:\t");  
    scanf("%d",&input);  
    for(i=input; i>0; i--){  
        fact=fact*i;  
    }  
    printf("%d",fact);  
    return 0;  
}
```

1.f.txt

```
/*Write a program that takes an integer as input and display it in reverse order.*/
#include<stdio.h>
int main(){
    int input,reverse=0,temp;
    printf("Enter Input:\t");
    scanf("%d",&input);
    while(input){
        temp=input%10;
        input/=10;
        reverse=reverse*10+temp;
    }
    printf("reversed form: %d",reverse);
    return 0;
}
```

1.g.txt

```
//Write a program to convert any integer to its binary equivalent
#include<stdio.h>
int main(){
    int input,binary=0,temp,i=1;
    printf("Enter Input:\t");
    scanf("%d",&input);
    while(input){
        temp=input%2;
        input/=2;
        binary=binary+temp*i;
        i*=10;
    }
    printf("Binary form: %d",binary);
    return 0;
}
```


1.h.txt

/*Write a program in C to determine and print the sum of the following harmonic series for a

given value of n : $s = 1 + 1/2 + 1/3 + \dots + 1/n$.)*/

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

```
int main(){
```

```
    int n,i;
```

```
    float sum;
```

```
    printf("Enter input:\t");
```

```
    scanf("%d",&n);
```

```
    for(i=1;i<=n;i++){
```

```
        sum=sum+(1/(float)i);
```

```
        //Here "i" is casted to float other wise the result will be wrong
```

```
        //I can also declare all their data types float to make the answer correct
```

```
but that is not correct way
```

```
    }
```

```
    printf("Sum= %f",sum);
```

```
    return 0;
```

```
}
```

1.i.txt

/*Given an integer number, write a program that displays the number as follows :

First Line : all digits

Second Line : all excepts first digits

Third Line : all excepts first two digits

.....

Last Line : the last digit.

For example, the number 5678 will be displayed as :

5 6 7 8

6 7 8

7 8

8*/

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

```
int main(){
```

```
    int n,i,j;
```

```
    printf("How Many Numbers Do u want to input?\t");
```

```
    scanf("%d",&n);
```

```
    int a[n];
```

```
    printf("Enter them:\t");
```

```
    for(i=0;i<n;i++){
```

```
        scanf("%d", &a[i]);
```

```
    }
```

```
    for(i=n;i>0;i--){
```

```
        for(j=n-i;j<n;j++){
```

```
            printf("%d\t",a[j]);
```

```
        }
```

```
        printf("\n");
```

```
    }
```

```
    return 0;
```

```
}
```

1.j.txt

```
/*Write a program in C that prints the largest of the three number using nesting  
if-else  
statements.*/
```

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

```
int main(){
```

```
    float a,b,c;
```

```
    printf("Enter Three Input:\t");
```

```
    scanf("%f %f %f",&a,&b,&c);
```

```
    if((a>b)&&(a>c))
```

```
        printf("Largest Number is %.3f",a);
```

```
    else if((b>a)&&(b>c))
```

```
        printf("Largest Number is %.3f",b);
```

```
    else
```

```
        printf("Largest Number is %.3f",c);
```

```
        return 0;
```

```
}
```

1.k.txt

/*Write a program in C to compute the sum of the digits of a given integer number.
For

example, the input number 123 then output should be 6*/

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

```
int main(){
    int input,sum=0,temp;
    printf("Enter Input:\t");
    scanf("%d",&input);
    while(input){
        temp=input%10;
        input/=10;
        sum=sum+temp;
    }
    printf("Sum is: %d",sum);
    return 0;
}
```

2.a(withoutFunction).txt

/*Write a program to calculate the standard deviation for n items*/

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

```
#include<math.h>
```

```
int main(){
    int n,i;
    printf("How many inputs do u want to enter?\n");
    scanf("%d",&n);
    float a[n],sd=0,sum=0,mean;
    for(i=0;i<n;i++){
        scanf("%f",&a[i]);
        sum+=a[i];
    }
    mean=sum/n;
    for(i=0;i<n;i++){
        //sd+= pow((element[i]-mean),2);
        sd+= (a[i]-mean)*(a[i]-mean);
    }
    sd=sqrt(sd/(n-1));
    printf("Standard Deviation: %f",sd);

    return 0;
}
```

2.a.txt

```
/*Write a program to calculate the standard deviation for n items*/
```

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

```
#include<math.h>
```

```
//declaration
```

```
float sd(float *element,int n);
```

```
int main(){
```

```
    int n,i;
```

```
    printf("How many inputs do u want to enter?\n");
```

```
    scanf("%d",&n);
```

```
    float a[n];
```

```
    for(i=0;i<n;i++){
```

```
        scanf("%f",&a[i]);
```

```
    }
```

```
    printf("Standard Deviation: %f",sd(a,n));
```

```
    return 0;
```

```
}
```

```
//definition
```

```
float sd(float *element,int n){
```

```
    float sd=0,sum=0,mean;
```

```
    int i;
```

```
    for(i=0;i<n;i++){
```

```
        sum+=element[i];
```

```
    }
```

```
    mean=sum/n;
```

```
    for(i=0;i<n;i++){
```

```
        //sd+= pow((element[i]-mean),2);
```

```
        sd+= (element[i]-mean)*(element[i]-mean);
```

```
    }
```

```
    sd=sqrt(sd/(n-1));
```

```
    return sd;
```

```
}
```

/*Write a program to initialize all the diagonal elements of a two-dimensional array to 1 and others to 0*/

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

```
int main(){
    int a[100][100],n,i,j;
    printf("Enter the size of two dimensional array (row=coloum):\t");
    scanf("%d",&n);
```

```
    printf("\nUp to Bottom:\n");
```

```
    //set value
```

```
    for(i=0;i<n;i++){
        for(j=0;j<n;j++){
            if(j==i)
                a[i][j]=1;
            else
                a[i][j]=0;
        }
    }
```

```
    //display
```

```
    for(i=0;i<n;i++){
        for(j=0;j<n;j++){
            printf("%d\t",a[i][j]);
        }
        printf("\n");
    }
```

```
    /***** (Reverse version optional) *****/
```

```
    printf("\n\nBottom to up:\n");
```

```
    //set value
```

```
    for(i=0;i<n;i++){
        for(j=0;j<n;j++){
            if(j==(n-i-1))
                a[i][j]=1;
            else
                a[i][j]=0;
        }
    }
```

```
    //display
```

```
    for(i=0;i<n;i++){
        for(j=0;j<n;j++){
            printf("%d\t",a[i][j]);
        }
        printf("\n");
    }
```

```
    printf("\n\n");
```

2.b.txt

```
    return 0;  
}
```


2.c.txt

```
/*Write a program that reads a string from keyboard and determines whether it is a  
palindrome  
or not.*/
```

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

```
int main(){  
    char str[1000],n,i,j;  
    int isItPalindrome=0;  
    printf("Enter The string:\n\t");  
    gets(str);  
  
    n=strlen(str);  
  
    for(i=0,j=n-1;i<n;i++,j--)  
        if(str[i]!=str[j])  
            isItPalindrome+=1;  
  
    if(isItPalindrome==0)  
        printf("The string is palindrome");  
    else  
        printf("The string is not palindrome");  
}
```

2.d.txt

/*Write a program to evaluate the expression using user defined function :

$f(x) = x - x^3/3! + x^5/5! - x^7/7! + \dots$ */

#include<stdio.h>

#include<math.h>

float myfunc(int , float);

int fact(int);

int main(){

int n;

float x;

printf("Enter x:\t");

scanf("%f",&x);

printf("Enter n:\t");

scanf("%d",&n);

printf("The Sum is %f",myfunc(n,x));

return 0;

}

float myfunc(int a, float b){

int i;

float sum=0;

for(i=1;i<=a;i+=2){

sum+= pow(b,i)/fact(i);

b*=-1;

}

return sum;

}

int fact(int f)

{

if (f >= 1)

return f*fact(f-1);

else

return 1;

}

2.e.txt

```
/*Write a program to find the first n Fibonacci numbers.*/
#include<stdio.h>
int main(){
    int x1=0,x2=1,temp=0,i,n;
    printf("Enter n:\t");
    scanf("%d",&n);
    printf("The Series is:\n");
    while(temp<=n)
    {
        printf("%d\t",temp);
        x1= x2;
        x2 = temp;
        temp= x1+x2;
    }

    return 0;
}
```

2.f.txt

//Write a program using an array of structure to read the number of three subjects for n

//students and sort them according to their position. (1st, 2nd, 3rd)

#include<stdio.h>

```
struct student{
    char name[94];
    int roll;
    float marks[3],tm;
};
```

```
int main(){
    int n,i,j;
    struct student s[1000], temp;
```

```
    printf("Of How many students do you want yo input data?\n");
```

```
    scanf("%d",&n);
```

```
    for(i=0;i<n;i++){
```

```
        s[i].tm=0;
```

```
        printf("\nStudent %d:\n",i+1);
```

```
        printf("Name:\t");
```

```
        scanf("%s",&s[i].name);
```

```
        printf("Roll:\t");
```

```
        scanf("%d",&s[i].roll);
```

```
        for(j=0;j<3;j++){
```

```
            printf("Subject %d:",j+1);
```

```
            scanf("%f",&s[i].marks[j]);
```

```
            s[i].tm += s[i].marks[j];
```

```
        }
```

```
    }
```

```
    //sorting
```

```
    for(i=0;i<n-1;i++){
```

```
        for(j=0;j<n-i-1;j++){
```

```
            if(s[j].tm<s[j+1].tm){
```

```
                temp=s[j];
```

```
                s[j]=s[j+1];
```

```
                s[j+1]=temp;
```

```
            }
```

```
    }
```

```
    //Output
```

```
    for(i=0;i<n;i++){
```

```
        printf("\n\nMerit %d:\n",i+1);
```

```
        printf("Name:\t%s\n",s[i].name);
```

```
        printf("Roll:\t%d\n",s[i].roll);
```

```
        for(j=0;j<3;j++){
```

```
2.f.txt
    printf("Subject %d mark: %0.3f\n",j+1,s[i].marks[j]);
}
printf("Total Mark:\t%0.3f\n\n",s[i].tm);
}

return 0;
}
```

2.g(Concept-1).txt

/*Given two one-dimensional arrays A and B which are sorted in ascending order.
Write a
program to merge them into a single sorted array C that contains every items from
arrays A
and B, in ascending order.*/

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

```
int main(){
    int a[500], b[500],c[1000],n1,n2,n3,i,j,temp;

    printf("How many number in array A?\n");
    scanf("%d",&n1);
    printf("Enter array A numbers:\t");
    for(i=0;i<n1;i++){
        scanf("%d",&a[i]);
    }

    printf("How many number in array B?\n");
    scanf("%d",&n2);
    printf("Enter array B numbers:\t");
    for(i=0;i<n2;i++){
        scanf("%d",&b[i]);
    }
    //merging
    for(i=0;i<n1;i++)
        c[i]=a[i];
    for(j=0;j<n2;j++,j++)
        c[i]=b[j];
    n3=i;

    printf("%d",n3);
    printf("The elements of C after merging:\n");
    for(i=0;i<n3;i++)
        printf("%d ",c[i]);

    for (i=0;i<n3-1;i++)
        for (j=0;j<n3-i-1;j++)
            if (c[j]>c[j+1]){
                temp=c[j];
                c[j]=c[j+1];
                c[j+1]=temp;
            }

    printf("\nThe elements of C after shorting:\n");
    for(i=0;i<n3;i++)
```

2.g(Concept-1).txt

```
printf("%d ",c[i]);
```

```
}
```

2.h(By library Function).txt

/* Write a program to copy one string into another and count the number of characters copied*/

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

```
#include<string.h>
```

```
int main(){
```

```
    char o[1000],d[1000];
```

```
    int len;
```

```
    printf("Enter a string:\t");
```

```
    gets(o);
```

```
    strcpy(d,o);
```

```
    len=strlen(d);
```

```
    printf("Length of string: %d\n",len);
```

```
    printf("Copied string: %s\n",d);
```

```
    return 0;
```

```
}
```


2.h(without library Function).txt

/* Write a program to copy one string into another and count the number of characters copied*/

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

```
int main(){

    char o[1000],d[1000];
    int i;
    printf("Enter a string:\t");
    gets(o);
    for(i=0;o[i]!='\0';i++){
        d[i]=o[i];
    }
    printf("Length of string: %d\n",i);
    printf("Copied string: %s\n",d);
    return 0;

}
```

2.i(By Library Function).txt

/*Write a program in C to concatenate the three arrays namely first-name, second-name, thirdname into one string to be called name.*/

```
#include<stdio.h>
#include<string.h>
int main(){
    char fn[32] ,sn[32], tn[32],n[94];
    printf("Enter your first name:\t");
    scanf("%31s",fn);
    printf("Enter your second name:\t");
    scanf("%31s",sn);
    printf("Enter your last name:\t");
    scanf("%31s",tn);
    strcpy(n,fn);
    strcat(n," ");
    strcat(n,sn);
    strcat(n," ");
    strcat(n,tn);
    printf("Concatenated String: %s",n);
}
```

2.i(without Library Function).txt

/*Write a program in C to concatenate the three arrays namely first-name, second-name, thirdname into one string to be called name.*/

```
#include<stdio.h>
#include<string.h>
int main(){
    char fn[32] ,sn[32], tn[32],n[94];
    int i,j;

    printf("Enter your first name:\t");
    scanf("%31s",fn);
    printf("Enter your second name:\t");
    scanf("%31s",sn);
    printf("Enter your last name:\t");
    scanf("%31s",tn);

    //adding first name
    for(i=0;fn[i]!='\0';i++)
        n[i]=fn[i];
    n[i]=' '; //adding space
    i+=1;

    //adding second name
    for(j=0;sn[j]!='\0';i++,j++)
        n[i]=sn[j];
    n[i]=' '; //adding space
    i+=1;

    //adding third name
    for(j=0;tn[j]!='\0';i++,j++)
        n[i]=tn[j];
    n[i]='\0'; //Terminating string

    printf("Concatenated String: %s",n);
}
```

3.a.txt

```
/*Write a program using to pointers to read in an array of integers and print its  
elements in  
reverse order.*/
```

```
#include<stdio.h>  
int main(){  
  
    int array[10000],*p,n,i;  
  
    printf("How many data do you want input:\t");  
    scanf("%d",&n);  
  
    p=array;  
  
    printf("Enter Array inputs:\n");  
    for(i=0;i<n;i++){  
        scanf("%d",p+i);  
    }  
  
    printf("Array In reverse order:\n\t");  
    for(i=n-1;i>=0;i--){  
        printf("%d ",*(p+i));  
    }  
  
    return 0;  
}
```

3.b.txt

/*Write a program using pointers to compute the sum of all elements stored in an array.*/

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

    float array[10000],*p,sum=0;
    int n,i;

    printf("How many data do you want input:\t");
    scanf("%d",&n);

    p=array;

    printf("Enter Array inputs:\n");
    for(i=0;i<n;i++){
        scanf("%f",p+i);
        sum+=*(p+i);
    }

    printf("Sum: %.2f",sum);

    return 0;
}
```

3.c.txt

```
/*Write a program to copy the contents of one file into another.*/
```

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

```
int main(){  
    FILE *src, *copy;  
    char a;
```

```
    src=fopen("src.txt","r");  
    copy=fopen("copy.txt","w");
```

```
    printf("Press any Key to start Cloning\n");  
    getch();
```

```
    while(1){  
        a= fgetc(src);  
        if(a==EOF)  
            break;  
        else  
            putc(a,copy);  
    }
```

```
    printf("Cloning Completed");
```

```
    fclose(src);  
    fclose(copy);  
}
```

3.d.txt

/*Write a program to read data from keyboard, write it to a file called, INPUT, again read the same data from the INPUT file and display it on the screen*/
#include<stdio.h>

```
int main(){
    FILE *x;
    char a;

    //Reads the data
    x=fopen("index.txt","w");
    printf("Write Some text:\n(Press: ctrl+z to stop inputing)\n\n");
    while((a=getchar())!=EOF){
        putc(a,x);
    }
    fclose(x);

    printf("\nEnter any key to read the file data that has been created\n\n");
    getch();

    //Reads the data
    x=fopen("index.txt","r");
    printf("The File Contains:\n\n");
    while((a=getc(x))!=EOF){
        printf("%c",a);
    }
    fclose(x);
    getch();

    return 0;
}
```

3.e.txt

```
/*Write a program that appends one file at the end of another. */  
#include<stdio.h>
```

```
int main(){  
    FILE *src, *master;  
    int a;  
  
    printf("Press any key to start appending.\n");  
    getch();  
    src= fopen("src.txt","r");  
    master= fopen("master.txt","a");  
  
    while((a=getc(src))!=EOF){  
        putc(a,master);  
    }  
  
    printf("Successful!!!");  
  
    fclose(src);  
    fclose(master);  
    return 0;  
}
```


3.f.txt

```
/*Write a program to open a file named INVENTORY and store in it the following data
:
```

```
Item Name Number Price Quantity
```

```
AAA-1      123 15.55 150
```

```
BBB-2      125 36.12 175
```

```
CCC-3      527 32.15 115
```

```
Extend the program to read this data from the file INVENTORY and display the
inventory table with the value of each item.*/
```

```
/*All Data are initialized*/
```

```
/*using CSV file */
```

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

```
#include<stdlib.h>
```

```
struct item{
    char name[32];
    int number;
    float price;
    int qt;
};
```

```
int main(){
    struct item a[3]={{"AAA-1",123,15.55,150}, {"BBB-2" ,125 ,36.12,175},{"CCC-3"
,572 , 32.15 ,115}};
    FILE *data;
    int i;

    printf("Press any key to continue\n");
    getch();
    data = fopen("data.csv","w");

    fprintf(data,"Name,Number,Price,qt\n");

    for(i=0;i<3;i++){
        fprintf(data,"%s,%5d,%3.2f,%5d\n",a[i].name,a[i].number,a[i].price,a[i].qt);
    }

    fclose(data);
    system("data.csv");
}
```