

```
#####
#                                     #
# 1 – Nombres à virgules et autres outils :      #
#                                     #
#####
```

1) Origami :

```
#include <stdio.h>
int main(){
int i; double e;
e=0.11;
for (i=0;i<15;i++){
    e*=2;
}
printf("%lf",e/10 );
return 0;
}
```

2) Conversions de distances :

```
#include <stdio.h>
int main () {
double d;
scanf("%lf",&d);
d = d/(0.707);
printf("%lf",d);

return 0;
}
```

3) Comparatif de prix :

```
#include <stdio.h>
int main(){
int i,n;
double p,a,pr;
scanf("%d",&n);
for (i=0;i<n;i++){
scanf("%lf %lf %lf",&p,&a,&pr);
printf("%lf\n",pr/p);
}
return 0;
}
```

4) Moyenne des notes :

```
#include <stdio.h>
int main(){
int n,i,nn;
```

```
double m=0;
scanf("%d",&n);
for (i=0;i<n;i++){
scanf("%d",&nn);
m+=nn;
}
m/=n;
printf("%lf",m);
```

```
return 0;
}
```

5) Augmentation de la population :

```
#include <stdio.h>
#include <math.h>
int main(){
double p,t;
scanf("%lf %lf",&p,&t);
p = p + (p*t)/100;
printf("%d",(int)p);
```

```
return 0;
}
```

6) Construction de maisons :

```
#include <stdio.h>
#include <math.h>
int main(){
double p;
scanf("%lf",&p);
p = p/60;
p = ceil(p);
printf("%lf",p*45);
```

```
return 0;
}
```

7) Soirée orageuse :

```
#include <stdio.h>
#include <math.h>
int main(){
int t;
double p;
scanf("%d",&t);
p = t*340.29/1000;
```

```
printf("%lf",round(p));
```

```
return 0;  
}
```

8)Augmentation des taxes :

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

```
int main() {  
    float vat, nvt, p;  
    scanf("%f %f %f", &vat, &nvt, &p);  
    float pa = p / (1 + vat / 100);  
    float ans = pa + pa * nvt / 100;  
    printf("%.2f", ans);  
    return 0;  
}
```

9) Achat de livres :

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

```
int main(){  
    int n,a,b;  
    scanf("%d %d",&a,&b);  
    n = a%b;  
    n = (a - n)/b;  
    printf("%d",n);
```

```
return 0;  
}
```

10) Une belle récolte

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

```
int main(){  
    int a,b;  
    scanf("%d %d",&a,&b);  
    if (b%a == 0) printf("oui");  
    else printf("non");  
    return 0;  
}
```

11) La roue de la fortune :

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

```
int main() {  
    int a=0,b;  
    scanf("%d",&b);  
    if (b >= 0 ){  
        if ( b < 24) printf("%d",a+b);  
        else printf("%d",b%24);
```

```

    }
else {
    if (b >= -24) printf("%d",24+b);
    else {
        //if(b%24 == 0) printf("%d",b%24);
        printf("%d",24+b%24);}
    }

return 0;
}

```

```

#####
#                                     #
# 2 – Découverte des tableaux :      #
#                                     #
#####

```

1) Préparation de l'onguent :

```

#include <stdio.h>
int main(){
int i,tab[10]={500, 180, 650, 25, 666, 42, 421, 1, 370,211};
scanf("%d",&i);
printf("%d",tab[i]);
return 0;
}

```

2) Liste de courses :

```

#include <stdio.h>
int main(){
int tab[10]={ 9, 5, 12, 15, 7, 42, 13, 10, 1 ,20},i,a,s=0;
for(i=0;i<10;i++){
scanf("%d",&a);
    s+=tab[i]*a;
}
printf("%d",s);
return 0;
}

```

3) Grand inventaire :

```
#include <stdio.h>
int main(int argc, char const *argv[]) {
    int i,a,b,n,tab[10]={0,0,0,0,0,0,0,0,0,0};
    scanf("%d",&n );
    for ( i = 0; i < n; i++) {
        scanf("%d %d",&a,&b );
        tab[a-1]+=b;
    }
    for ( i = 0; i < 10; i++) {
        printf("%d\n",tab[i] );
    }
    return 0;
}
```

4) Étude de marché :

```
#include <stdio.h>
int main() {
    int i,n,np,a;
    scanf("%d %d",&n,&np);
    int tab[n-1];
    for(i=0;i<n;i++){
        tab[i] =0;}
    for(i=0;i<np;i++){
        scanf("%d",&a);
        tab[a] +=1;
    }
    for(i=0;i<n;i++){/*
    if (tab[i] != 0){*/
    printf("%d\n",tab[i]);
    }
    return 0;
}
```

5) Répartition du poids :

```
#include <stdio.h>
int main(){
    int i,n;
    scanf("%d",&n);
    double s=0,tab[n];
    for(i=0;i<n;i++){
        scanf("%lf",&tab[i]);
        s+=tab[i];
    }
}
```

```

    s=s/n;
    for(i=0;i<n;i++){
        printf("%lf\n",s-tab[i]);}

return 0;
}

```

6) Visite de la mine :

```

/* aller à gauche (1),
aller à droite (2),
aller tout droit (3)
, monter (4)
et descendre (5). */
#include <stdio.h>
int main (){
    int i,n,a;
    scanf("%d",&n);
    int tab[n];
    for(i=0;i<n;i++){
        scanf("%d",&a);
        if(a == 1) tab[i] = 2;
        if(a == 2) tab[i] = 1;
        if(a == 3) tab[i] = 3;
        if(a == 4) tab[i] = 5;
        if(a == 5) tab[i] = 4;
    }
    for(i=n-1 ; i>=0;i--){
        printf("%d\n",tab[i]);}

return 0;
}

```

7) Journée des cadeaux :

```

#include <stdio.h>
void triTab(int *tab, int n){
    int i,a,j;
    for(i = 0 ; i < n ; i++){
        for(j = 0 ; j < n ; j++){
            if (tab[i] < tab[j]){
                // perm(tab[i],tab[i+1]);
                a = tab[i];
                tab[i] = tab[j];
                tab[j] = a;
            }
        }
    }
}

```

```

void saisie(int *a, int l){
    int i;
    for (i = 0; i < l;i++){
        scanf("%d",&a[i]);
    }
}
int main(){
    int n,a;
    scanf("%d",&n);
    a = n/2 -1;
    int tab[n];
    saisie(tab,n);
    triTab(tab,n);
    if(n%2 == 0){
        double b;
        b = (tab[a]+tab[a+1])/2;
        printf("%lf",b/);
    }
    else{
        printf("%d",tab[a+1]);
    }

    return 0;
}

```

8) Course à trois jambes :

```

#include <stdio.h>
void triTab(int *tab, int n){
    int i,a,j;
    for(i = 0 ; i < n ; i++){
        for(j = 0 ; j < n ; j++){
            if (tab[i] < tab[j]){
                // perm(tab[i],tab[i+1]);
                a = tab[i];
                tab[i] = tab[j];
                tab[j] = a;
            }
        }
    }
    //affiche(tab,n);
}
void afficheLesPaires(int *tab,int n){
    int i;
    for(i = 0; i < n/2 ;i++){
        printf("%d %d\n",tab[i],tab[n-1-i]);
    }
}
void saisie(int *a, int l){
    int i;
    for (i = 0; i < l;i++){
        scanf("%d",&a[i]);
    }
}

```

```

    }
}
int main(){
    int n;
    scanf("%d",&n);
    int tab[n];
    saisie(tab,n);
    triTab(tab,n);
    afficheLesPaires(tab,n);
return 0;
}

```

10) Choix des emplacements :

```

#include <stdio.h>
#include <stdlib.h>

void triTab(int *tab, int n){
    int i,a,j;
    for(i = 0 ; i < n ; i++){
        for(j = 0 ; j < n ; j++){
            if (tab[i] < tab[j]){
                a = tab[i];
                tab[i] = tab[j];
                tab[j] = a;
            }
        }
    }
}

void saisie(int *tab,int *a,int n){
    int i;
    for ( i = 0; i < n; i++)
    {
        scanf("%d",&tab[i]);
        a[i] = tab[i];
    }
}

int main(int argc, char const *argv[])
{
    int i,j,n;
    scanf("%d",&n);
    int tab[n],a[n];
    saisie(tab,a,n);
    triTab(a,n);
    for ( i = 0; i < n; i++)
    {
        for(j = 0; j < n ;j++){
            if (a[i] == tab[j])

```



```

    {
        printf("%d\n",j);
    }
}

```

```

return 0;
}

```

9) Banquet municipal :

```

#include <stdio.h>
#include <stdlib.h>
void permute(int *x , int *y){
    int z;
    z = *x;
    *x = *y;
    *y = z;
}
void saisie(int *tab,int n){
    int i;
    for ( i = 0; i < n; i++)
    {
        scanf("%d",&tab[i]);
    }
}
void affiche(int *tab , int n){
    int i;
    for ( i = 0; i < n; i++)
    {
        printf("%d\n",tab[i]);
    }
}
int main(){
    int np,cp;
    scanf("%d %d",&np,&cp);
    int tab [np];
    saisie(tab,np);
    int a;
    for(a = 0 ; a < cp ;a++){
        int i,j;
        scanf("%d %d",&i,&j);
        permute(&tab[i],&tab[j]);
    }
    affiche(tab,np);

return 0;
}

```

```
#####
#                                     #
# 3 – Chaînes de caractères :      #
#                                     #
#####
```

1) Petites fiches et gros travail :

```
#include <stdio.h>
int main(){
    int i ;
    char n[200],t[200];
    for( i = 0; i < 6 ; i++){
        scanf("%[^\\n]\\n", n);
        scanf("%[^\\n]\\n", t);
        puts(t);
        puts(n);
    }

    return 0;
}
```

2) Priorité alphabétique:

```
#include <stdio.h>
#include <string.h>
int main(){
    char a[50],b[50];
    scanf("%s %s",a,b);
    int i;
    i = strcmp(a,b);
    if( i > 0) puts(b);
    if ( i < 0) puts(a);
    return 0;
}
```

3) Une ligne sur deux :

```
#include <stdio.h>
int main(){
    int i,n;
    char c[1000];
    scanf("%d\\n",&n);
    for(i = 1;i <= n ;i++){
        scanf(" %[^\\n]",c);
        if (i % 2 != 0){
            printf("%s\\n",c);
        }
    }
}
```

```
return 0;
}
```

4) Résumés de livres :

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
int main(){
int i,n,a;
scanf("%d %d",&n,&a);
char s[1000],c[10000];
for(i = 0 ; i < n ; i++){
    scanf("%[^\n]\n",s);
    if(*fgetc(c,1000,stdin)){
        c[strcspn(c,"\n")]=0;
    }
    if( strlen(c) <= a && strlen(s) < 1000){
        // puts(s);
        printf("%s\n",s);
    }
}
return 0;
}
```

5) Lire ou ne pas lire, telle est la question :

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
int main(int argc, char const *argv[])
{
    int nl,l = 0;
    scanf("%d\n",&nl);
    char c[1001];
    for (int i = 0; i < nl; i++)
    {
        scanf("%[^\n]\n",c);
        if (strlen(c) > l){
            printf("%s\n",c);
            l = strlen(c);
        }
    }

    return 0;
}
```

6) Fiches d'inscription :

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

```

int main(int argc, char const *argv[])
{
    int n;
    scanf("%d",&n);
    char a[100],b[100];
    for (int i = 0; i < n; i++)
    {
        scanf("%s %s",a,b);
        printf("%s %s\n",b,a);
    }

    return 0;
}

```

7) Analyse de fréquence :

```

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

void affiche(int *tab,int n){
    for (int i = 0; i <= n; i++)
    {
        if (tab[i] != 0)
        {
            printf("%d : %d\n",i,tab[i]);
        }
    }
}

```

```

int main(int argc, char const *argv[])
{
    int l,m,tab[101]={0};
    scanf("%d %d",&l,&m);
    char c[100];
    for (int i = 0; i < l; i++)
    {
        for (int j = 0; j < m; j++)
        {
            scanf("%s",c);
            tab[strlen(c)]++;
        }
    }
    affiche(tab,100);
    return 0;
}

```

8) Impression d'étiquettes :

```

#include <stdio.h>
#include <string.h>
int main(int argc, char const *argv[])
{
    char c[100];
    scanf("%[^\\n]",c);
    for(int i = 0; i < strlen(c);i++)
        printf("%c\\n",c[i]);
    return 0;
}

```

9) Écriture en miroir :

```

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

int main(int argc, char const *argv[])
{
    int a;
    scanf("%d\\n",&a);
    char c[1000];
    for (int i = 0; i < a; i++){
        scanf("%[^\\n]\\n",c);
        char s[strlen(c)];
        for (int i = 0; i <= strlen(c); i++)
        {
            s[i] = c[strlen(c)-1-i];
        }
        printf("%s\\n",s);
    }
    return 0;
}

```

10) Inscription d'étudiants :

```

#include <stdio.h>
#include <string.h>
#include <stdlib.h>
int main(int argc, char const *argv[])
{
    char s[50];
    scanf("%s",s);
    for (int i = 'A'; i <= 'Z'; i++)
    {
        if (s[0] >= 'A' && s[0] <= 'F' ) {
            printf("1"); break;}
        else if (s[0] >= 'G' && s[0] <= 'P' ) {
            printf("2");break;}
        else{
            printf("3");
            break;
        }
    }
}

```

```

    }
}

return 0;
}

```

11) ngms sns vlls :

```

#include <stdlib.h>/*
#include <stdlib.h>
#include <stdio.h>
#include <string.h>
void rm(char *s){
    for (int i = 0; i < strlen(s); i++)
    {
        if (s[i] == ' ' || s[i] == 'A' || s[i] == 'U' || s[i] == 'E' || s[i] == 'T' || s[i] == 'O' || s[i] == 'Y')
            continue;
        printf("%c",s[i]);

    }
    printf("\n");
}
int main(int argc, char const *argv[])
{
    char n[101],t[101];
    scanf("%s%s",n,t);
    rm(t);
    rm(n);
    return 0;
}
*/
#include <stdio.h>
#include <string.h>
void rm(char *s){
    for (int i = 0; i < strlen(s); i++)
    {
        if (s[i] == ' ' || s[i] == 'A' || s[i] == 'U' || s[i] == 'E' || s[i] == 'T' || s[i] == 'O' || s[i] == 'Y')
            continue;
        printf("%c",s[i]);

    }
    printf("\n");
}
int main(int argc, char const *argv[])
{
    char n[101],t[101];
    scanf("%s%s",n,t);
    rm(n);
    rm(t);
    return 0;
}

```

12) bataille :

```
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
void compare(char *c, char *s){
    int b, a=0;
    if (strlen(c) > strlen(s)) b = strlen(c);
    else b = strlen(s);
    for (int i = 0; i < 50; i++)
    {
        if ( s[i] == c[i] ) {
            a++;
            if ( a == b){
                printf("=\n%d",a);
                break;}
        }
        else if (!s[i] && c[i])
        {
            printf("1\n%d",a);
            break;
        }
        else if (s[i] && !c[i])
        {
            printf("2\n%d",a);
            break;
        }
        else if( s[i] < c[i]){
            printf("2\n%d",a);
            break;
        }
        else
        {
            printf("1\n%d",a);
            break;
        }
    }
}
int main(int argc, char const *argv[])
{
    char s[50],c[50];
    scanf("%s",s);
    scanf("%s",c);
    compare(s,c);
    return 0;
}
```

13) Analyse d'une langue :

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

```

#include <stdlib.h>
int main(int argc, char const *argv[])
{
    char c,s[1001];
    int n,a = 0;
    scanf("%c %d\n",&c,&n);
    for (int i = 0; i < n; i++)
    {
        scanf("%c\n",s);
//        fgets(s,1001,stdin);
        for (int j = 0; j < strlen(s); j++)
        {
            if (s[j] == c) a++;
        }

    }
    printf("%d",a);
    return 0;
}

```

14) Sans espace :

```

#include <stdio.h>
#include <string.h>
int main(){
    char s[101];
    scanf("%c\n",s);
    for(int i = 0; i < strlen(s);i++){
        if (s[i] == 32 ) s[i] = '_';
    }
    printf("%s",s);

    return 0;
}

```

```

#####
#                                     #
#           4 – Fonction :           #
#                                     #
#####

```

1) Code secret deux fois:

```

#include <stdio.h>
void pass(){
    int a=0;
    while(a!= 4242){
        printf("Entrez le code :\n");
        scanf("%d",&a);
    }
}

```



```

}
}
int main(){
    pass();
    printf("Encore une fois.\n");
    pass();
    printf("Bravo.");
return 0;
}

```

2) Deux codes secrets :

```

#include <stdio.h>
void pass(){
    int a=0;
    while(a!= 4242){
        printf("Entrez le code :");
        scanf("%d",&a);
        printf("\n");
    }
    printf("Premier code bon.\n");
    while(a!= 2121){
        printf("Entrez le code :");
        scanf("%d",&a);
        printf("\n");
    }
    printf("Bravo.");
}
int main(){
    pass();
    return 0;
}

```

3) Dentelle :

```

#include <stdio.h>
void printChar (char c ,int n){
    for (int i = 0; i < n; i++)
    {
        printf("%c",c);
    }printf("\n");
}
int main(){
    int a;
    scanf("%d",&a);
    printChar('X',a);
    printChar('#',a);
    printChar('i',a);
return 0;
}

```

4) Motif rectangulaire :

```

#include <stdio.h>
void printChar (int l , int c , char m){
    for (int j = 0; j < l; j++)
    {
        for (int i = 0; i < c; i++)

```

```

    {
    printf("%c",m);
    }
    printf("\n");
    }
}
int main(){
    int a,b;
    char m;
    scanf("%d %d %c",&a,&b,&m);
    printChar(a,b,m);
return 0;
}

```

5) Le plus petit de deux entiers:

```

#include <stdio.h>
int saisie(int *tab,int n){
    for (int i = 0; i < n; i++)
    {
        scanf("%d",&tab[i]);
    }

    int min = tab[0];
    for (int i = 0; i < n; i++)
    {
        if (min > tab[i]) min = tab[i];
    }
    return min;
}
int main(){int tab[10];
    printf("%d",saisie(tab,10));
    return 0;
}

```

6) Phénomène numérique:

```

#include <stdio.h>
#include <math.h>
int fct(int n){
    while (n != 1)
    {
        if (n % 2 == 0)
        {
            n/=2;
            printf("%d ",n);
        }else
        {
            n = n * 3 + 1;
            printf("%d ",n);
        }
    }
    return 1;
}
int main(int argc, char const *argv[])
{
    int a;

```

```

        scanf("%d",&a);
        fct(a);
return 0;
}
7) Distance euclidienne:
#include <stdio.h>
#include <math.h>
    double distance(double *x,double *y,double *a,double *b){
        double d;
        d = sqrt(pow(*x-*a,2) + pow(*y-*b,2));
return d;
}

```

```

int main(){
    double x,y,a,b;
    scanf("%lf %lf %lf %lf",&x,&y,&a,&b);
    printf("%lf",distance(&x,&y,&a,&b));
return 0;
}

```

8) Formes creuses :

```

#include <stdio.h>
#include <math.h>
void dessign(int x,int l, int c,int t){
    for (int j = 0; j < x; j++) printf("X");
    printf("\n\n");
    for (int i = 0; i < l; i++) {
        for (int j = 0; j < c; j++)
        {
            if (i == 0 || i == l-1 )printf("#");
            else{
                if (j == 0 || j == c-1) printf("#");
                else printf(" ");
            }
        }
        printf("\n");
    }
    for (int i = 0; i <= t; i++)
    {
        for (int j = 0 ; j < i ;j++){
            if ( j == 0 || j == i-1 || i == t )printf("@");
            else printf(" ");
        }
        printf("\n");
    }
}

```

```

int main(){
    int a,b,c,d;
    scanf("%d %d %d %d",&a,&b,&c,&d);
    dessign(a,b,c,d);
return 0;
}

```

9) Convertisseur d'unités:

```

#define pm 0.3048
#define gl 0.002205

```

```

void convert (char c, double t){
    switch (c)
    {
        case 'm':
            t /= pm;
            printf("%lf p\n",t);
            break;
        case 'g':t *= gl;
            printf("%lf l\n",t);
            break;
        case 'c':
            t = 32 + 1.8 * t;
            printf(" %lf f\n",t);
            break;
    }
}

int main(){
    int a;
    double b;
    char c;
    scanf("%d",&a);
    for (int i = 0; i < a; i++)
    {
        scanf("%lf %c",&b,&c);
        convert(c,b);
    }
    return 0;
}

```