

## EXERCICE 3

```

#include <stdio.h>

int main (){
    int l,c,i,j;

    do{
        printf("Veuillez saisir le nombre de lignes : ");
        scanf("%d", &l);

    }while(l>10 && l<=0);

    do{
        printf("Veuillez saisir le nombre de colonnes : ");
        scanf("%d", &c);

    }while(c>10 && c<=0);

    int M[l][c];

    for (i=0;i<l;i++){
        for (j=0; j<c; j++) {
            printf("Élément M[%d][%d] : ",i ,j);
            scanf("%d", &M[i][j]);
        }
    }
    int V[l*c];
    int k= 0;
    for (i=0; i<l; i++) {
        for (j=0; j<c; j++) {
            V[k]=M[i][j];
            k++;
        }
    }
    printf("La matrice est: ");
    for (k=0;k<l*c;k++)
    {
        printf("%d ", V[k]);
    }
    return 0;
}

```

## EXERCICE 5

```
#include <stdio.h>

int main(){

    int i,j;
    int resultat=0;
    do{
        printf("La dimension des tableaux : ");
        scanf("%d", &i );
    }while(i<=0);

    int U[i], V[i];

    printf("Premier tableau\n");
    for (j=0;j<i;j++)
    {
        printf("Elément %d : ", j);
        scanf("%d", &U[j]);
    }
    printf("Deuxième tableau\n");
    for (j=0;j<i;j++)
    {
        printf("Elément %d : ", j);
        scanf("%d", &V[j]);
    }
    for (j=0;j<i;j++)
        resultat +=U[j]*V[j];
    printf("Produit scalaire : %d\n", resultat);
    return 0;
}
```

## EXERCICE 7

```
#include <stdio.h>

int main(){

    int N;

    do {
        printf("Veuillez saisir le degré du triangle de Pascal: ");
        scanf("%d", &N);
    } while (N<=0 && N>13);

    int TP[N+1][N+1];

    for (int i=0; i<=N; i++) {
        TP[i][0] = 1;
    }
    for (int i=0; i<=N; i++) {
        TP[i][i] = 1;
    }

    for (int i=2; i<=N; i++) {
        for (int j=1; j<i; j++) {
            TP[i][j] = TP[i-1][j-1] + TP[i-1][j];
        }
    }

    for (int i=0; i<=N; i++) {
        for (int j=0; j<=i; j++) {
            printf("%3d", TP[i][j]);
        }
        printf("\n");
    }
    return 0;
}
```

## EXERCICE 9

```
#include <stdio.h>
#define TAILLELIGNE 100

int main (){

    int length = 0, fin = 0;
    char chaine[TAILLELIGNE];

    printf("Veuillez saisir une chaine de caractère: ");

    while ((length<=TAILLELIGNE) && (!fin)){

        scanf("%c",&chaine[length]);
        fin = (chaine[length]=='\n');

        if (!fin){
            length++;
        }
    }
    printf ("%d",length);
    printf("\n");

    return 0;
}
```

## EXERCICE 10

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

int main(){
    char CH[201];
    unsigned long length;

    printf("Veuillez enter une phrase : ");
    gets(CH);
    length = strlen(CH);

    for (int i=0; i<length; i++) {
        if (isupper(CH[i]) ) {
            CH[i]=tolower(CH[i]);
        }else{
            CH[i]=toupper(CH[i]);
        }
    }

    for (int i=0; i<length; i++) {
        printf("%c", CH[i]);
    }
    printf("\n");

    return 0;
}
```

## EXERCICE 11

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

int main (){

    int i,j,k;
    char mot[101];

    printf("Veuillez enter un mot : ");
    gets(mot);
    k = strlen(mot);

    i=0;
    j=k-1;

    while (i<j) {
        if (mot[i] != mot[j]) {
            printf("Le mot n'est pas un palindrome\n");
            exit (1);
        }else{
            i++;
            j--;
        }
    }
    printf("Le mot est un palindrome\n");

    return 0;

}
```

## EXERCICE 12

```

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

int main (){

    char TXT[201];
    char temp;
    int length, i=0, j=0;

    printf("Veuillez enter une phrase : ");
    gets(TXT);
    length = strlen(TXT);

    while (i<length) {
        if (TXT[i]=='e' || TXT[i] == 'E') {
            j++;
        }
        i++;
    }
    printf("Voici le nombre de e dans cette phrase : %d. \n", j);
    printf("Voici la phrase sans changer la variable TXT : ");
    for (i=length-1; i>=0; i--) {
        printf("%c", TXT[i] );
    }
    printf("\n");

    printf("Voici la phrase en changeant la variable TXT : ");
    for (i=0, j=length-1; i<length, j>i; i++, j--) {
        temp = TXT[i];
        TXT[i] = TXT[j];
        TXT[j] = temp;
    }
    for (i=0; i<length; i++) {
        printf("%c", TXT[i] );
    }
    printf("\n");

    return 0;
}

```

## EXERCICE 13

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

int main (){

    char TXT[201];
    int length, i=0;

    printf("Veuillez enter une phrase : ");
    gets(TXT);
    length = strlen(TXT);
    printf("Voici la phrase en enlevant toutes les lettres e : ");

    while (i<length) {
        if (TXT[i] == 'e' || TXT[i] == 'E') {
            i++;
        }
        printf("%c", TXT[i]);
        i++;
    }

    printf("\n");

    return 0;
}
```



## EXERCICE 14

```

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

int main (){
    char TXT1[21];
    char TXT2[21];
    unsigned long length, i=0;
    do{
        printf("Donner un verbe : ");
        gets(TXT1);
        length = strlen(TXT1);
        i=length-1;
    }while (TXT1[i] != 'r' && TXT1[i-1] != 'e');
    TXT1[length-2] = '\0';
    puts(TXT1);
    //Je
    strcpy(TXT2,TXT1);
    strcat(TXT2, "e");
    printf("Je %s\n", TXT2);
    //Tu
    strcpy(TXT2,TXT1);
    strcat(TXT2, "es");
    printf("Tu %s\n", TXT2);
    //Il
    strcpy(TXT2,TXT1);
    strcat(TXT2, "e");
    printf("Il, elle %s\n", TXT2);
    //Nous
    strcpy(TXT2,TXT1);
    strcat(TXT2, "ons");
    printf("Nous %s\n", TXT2);
    //Vous
    strcpy(TXT2,TXT1);
    strcat(TXT2, "ez");
    printf("Vous %s\n", TXT2);
    //Ils
    strcpy(TXT2,TXT1);
    strcat(TXT2, "ent");
    printf("Ils , elles %s\n", TXT2);

    return 0;
}

```

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}
```

## EXERCICE 15

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

int main(){

    int taille = 10, i=0, j=0;
    char temp[10]={0};
    char mots[10][10];

    while (i<10) {
        printf("Veuillez saisir le mot numero %d: ", i+1);
        scanf("%s", mots[i]);
        i++;
    }
    for(i=0; i<taille; i++){
        for(j=0; j<taille; j++){
            if(strcmp(mots[i],mots[j])<0){
                strcpy(temp, mots[i]);
                strcpy(mots[i], mots[j]);
                strcpy(mots[j], temp);
            }
        }
    }
    for(i=0; i<taille; i++){
        printf("%s", mots[i]);
        printf("\n");
    }

    return 0;
}
```