

TP 3

Exercice 1 :

```
#include <stdio.h>
int Inv(int nomb){
    int x = 0, r = 0;
    while (nomb){
        r = nomb % 10;
        x = x * 10 + r;
        nomb /= 10;
    }
    return x;
}
void main(){
    int x;
    printf("Donnez un entier: ");
    scanf("%d", &x);
    printf("Le nombre renverse est: %d\n", Inv(x));
}
```

Exercice 2:

```
int pgcd(int n1,int n2){
    int i, gcd;
    for(i=1; i <= n1 && i <= n2; ++i){
        if(n1%i==0 && n2%i==0)
            gcd = i;
    }
    return gcd;
}
```

Exercice 3 :

```
int factoriel(int n){ // n > 0
    int i;
    unsigned long long fact = 1;
    for (i = 1; i <= n; ++i){
        fact *= i;
    }
    return fact;
}
```

Exercice 4 :

```
int Puissance(int base, int power){
    int i = 0, result = 1;
    while (i < power){
        result *= base;
        i++;
    }
    return result;
}
```

Exercice 6 :

```
int nombreDeChiffres(int n){
    int count = 0;
    while (n != 0){
        n /= 10; // n = n/10
        ++count;
    }
    return count;
}
```

Exercice 7 :

```
void DessinerX(){
    int i, j, hauteur;
    char lettre;
    printf("Saisir une lettre : ");
    scanf("%c", &lettre);
    printf("Saisir l'hauteur : ");
    scanf("%d", &hauteur);
    for (i = 0; i < hauteur; i++){
        for (j = 0; j < hauteur; j++){
            if (i == j || j == (hauteur - i - 1)){
                printf("%c", lettre);
            }else{
                printf(" ");
            }
        }
        printf("\n");
    }
}
```

Exercice 8:

```
// J'ai pas bien compris la question :/  
# include <stdio.h>  
// Mais on peut échanger la valeur de 2 variables comme ça  
void Echanger(int a, int b){  
    printf("Avant l'échange la valeur de a est: %d et b est: %d\n", a, b);  
    int aide = a;  
    a = b;  
    b = aide;  
    printf("Maintenant la valeur de a est: %d et la valeur de b est:  
%d\n", a, b);  
}  
int main(){  
    Echanger(5, 6); // par exemple  
    return 0;  
}
```

Exercice 9:

```
# include <stdio.h>  
void Echanger(int a, int b){  
    int temp, *x, *y;  
    printf("Avant L'échange\n a = %d\n b = %d\n", a, b);  
    x = &a;  
    y = &b;  
    temp = *y;  
    *y = *x;  
    *x = temp;  
    printf("Après L'échange\n a = %d\n b = %d\n", a, b);  
}  
int main(){  
    Echanger(5, 6);  
}
```

Exercice 10:

```
void Premiers(){  
    int low = 1, i, flag;  
    while (low < 200){  
        flag = 0;  
        if (low <= 1){
```

```

        ++low;
        continue;
    }
    for (i = 2; i <= low / 2; ++i){
        if (low % i == 0){
            flag = 1;
            break;
        }
    }
    if (flag == 0)
        printf("%d \n", low);
    ++low;
}
}

```

Exercice 11:

```

#include <stdio.h>
int main(){
    int i, j, rows;
    printf("Nombres des lignes : ");
    scanf("%d", &rows);
    for (i = 1; i <= rows; i++){
        for (j = i; j < rows; j++){
            printf(" ");
        }
        for (j = 1; j <= (2 * i - 1); j++){
            printf("*");
        }
        printf("\n");
    }
    return 0;
}

```

Exercice 12:

```

#include <stdio.h>
void table_produit(int n){
    int i, j; /* Affichage de l'en-tête */
    printf("X*Y I");
    for(j=0; j<=10; j++) printf("%4d", j);
    printf("\n");
    printf("-----");
}

```

```

    for(j=0;j<=10;j++)
    printf("----");printf("\n");/* Affichage du tableau */
    for(i=0;i<=n;i++){
    printf("%4d I",i);
    for(j=0;j<=10;j++)
    printf("%4d",i*j);
    printf("\n");
    }
}
int main(){
    int n;
    printf("donnez un entier n: ");
    scanf("%d", &n);
    table_produit(n);
    return 0;
}

```

Exercice 13:

```

void tableauDeMultiplication(){
    int nbr = 1, i = 1;
    printf("\n Table de multiplication entre 1 est 10: \n");
    while (nbr <= 10){
        for (i = 1; i <= 10; i++){
            printf(" %d * %d = %d\n", nbr, i, nbr * i);
        }
        printf("\n =====\n");
        nbr++;
    }
}

```