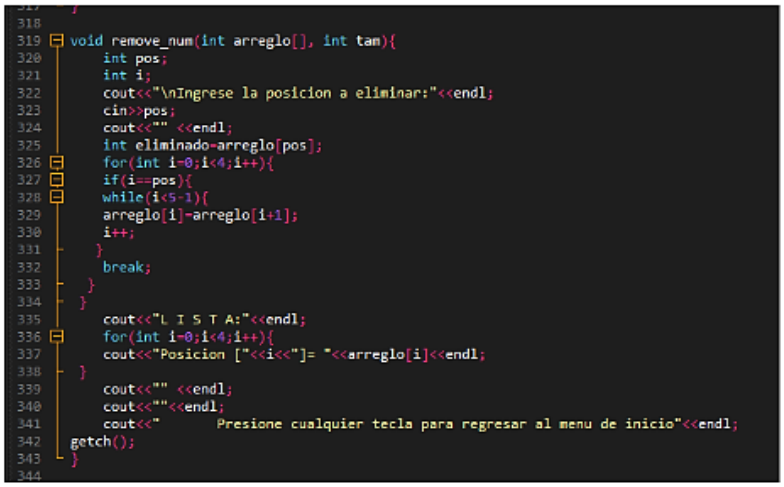
23 PABON GONZALEZ ELKIN ANDRES

```cpp
#include<iostream>
#include<conio.h>
#include<array>
#define TAM 6
using namespace std;

void ingresar_numeros(int arreglo[],int tam);
void mostrar_numeros(int arreglo[],int tam);
void append(int arreglo[],int tam, int opcion);
void clear_num(int arreglo[], int tam);
void extend(int arreglo[], int tam);
void count_num(int arreglo[], int tam, int numero, int contador);
void index(int arreglo[], int tam);
void insert_num(int arreglo[], int tam, int opcion);
void pop(int arreglo[], int tam);
void remove_num(int arreglo[], int tam);
void reverse_num(int arreglo[], int tam, int n, int i);
void sort_num(int arreglo[], int tam, int i, int j, int aux);
```

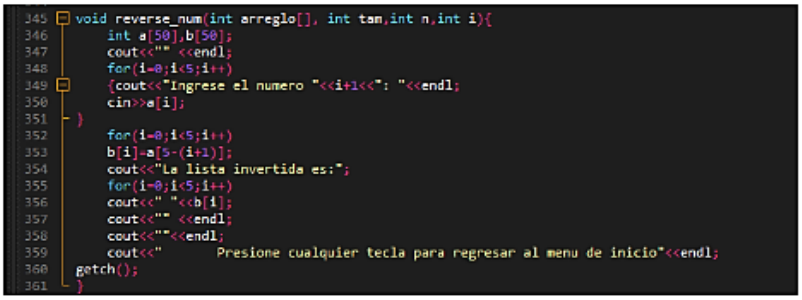
```cpp
int main(){
    int n,i;
    int tam,j,aux;
    int numeros[5];
    int numero;
    int contador = 0;
    int a;
    int opcion;
    int num[TAM];
    cout<<"     [ M E N U ] " <<endl;
    cout<<""<<endl;
    cout<<" ESCOJA EL METODO A REALIZAR: " <<endl;
    cout<<""<<endl;
    cout<<" Append   ( 1 ) " <<endl;
    cout<<" Clear    ( 2 ) "<<endl;
    cout<<" Extend   ( 3 ) "<<endl;
    cout<<" Count    ( 4 ) " <<endl;
    cout<<" Index    ( 5 ) "<<endl;
    cout<<" Insert   ( 6 ) "<<endl;
    cout<<" Pop      ( 7 ) " <<endl;
    cout<<" Remove   ( 8 ) "<<endl;
    cout<<" Reverse  ( 9 ) "<<endl;
    cout<<" Sort     ( 10 ) "<<endl;
    cout<<"" <<endl;
    cin>>a;
```

```cpp
switch (a){
    case 1:
        system("cls");
        cout<< "OPCION APPEND: Agrega un elemento al final de la lista"<<endl;
        ingresar_numeros(num,TAM);
        mostrar_numeros(num,TAM);
        append(num,TAM,opcion);
        system("cls");
        return main();
    break;
    case 2:
        system("cls");
        cout<< "OPCION CLEAR: Vacia todos los elementos de la lista"<<endl;
        ingresar_numeros(num,TAM);
        mostrar_numeros(num,TAM);
        clear_num(num,TAM);
        system("cls");
        return main();

    break;
    case 3:
        system("cls");
        cout<< "OPCION EXTEND: Une una lista a otra"<<endl;
        extend(num,TAM);
        system("cls");
        return main();
    break;
    case 4:
        system("cls");
        cout<< "OPCION COUNT: Cuenta el numero de veces que aparece un valor"<<endl;
        count_num(num,TAM,numero,contador);
        system("cls");
        return main();
    break;
```

```cpp
void extend(int arreglo[], int tam){
    int n,m;
    cout<<" I N G R E S E   5   N U M E R O S: "<<endl;
    cout<<"" <<endl;
    int A[5],B[5];
    cout<<"Ingrese los valores de la PRIMERA LISTA:  \n";
    for(int i=0;i<5;i++){
        cout<<"Ingrese el numero "<<i+1<<": "<<endl;
        cin>>A[i];
        cout<<"" <<endl;
    }
    cout<<"Ingrese los valores de la SEGUNDA LISTA: \n";
    for(int i=0;i<5;i++){
        cout<<"Ingrese el numero "<<i+1<<": "<<endl;
        cin>>B[i];
    }
    int e=0,C[5+5];
    for(int i=0;i<5;i++){
        C[i]=A[i];
        e++;
    }
    for(int j=0;j<5;j++){
        C[e]=B[j];
        e++;
    }
    cout<<"" <<endl;
    cout<<"La union de la primera y segunda lista es: \n";
    for(int i=0;i<(5+5);i++){
        cout<<C[i]<<endl;
    }
    cout<<""<<endl;
    cout<<"       Presione cualquier tecla para regresar al menu de inicio"<<endl;
getch();
```



```
}

void remove_num(int arreglo[], int tam){
    int pos;
    int i;
    cout<<"\nIngrese la posicion a eliminar:"<<endl;
    cin>>pos;
    cout<<"" <<endl;
    int eliminado=arreglo[pos];
    for(int i=0;i<4;i++){
    if(i==pos){
    while(i<5-1){
    arreglo[i]=arreglo[i+1];
    i++;
   }
    break;
  }
 }
    cout<<"L I S T A:"<<endl;
    for(int i=0;i<4;i++){
    cout<<"Posicion ["<<i<<"]= "<<arreglo[i]<<endl;
 }
    cout<<"" <<endl;
    cout<<""<<endl;
    cout<<"       Presione cualquier tecla para regresar al menu de inicio"<<endl;
getch();
}

```



```
void reverse_num(int arreglo[], int tam,int n,int i){
    int a[50],b[50];
    cout<<"" <<endl;
    for(i=0;i<5;i++)
    {cout<<"Ingrese el numero "<<i+1<<": "<<endl;
    cin>>a[i];
}
    for(i=0;i<5;i++)
    b[i]=a[5-(i+1)];
    cout<<"La lista invertida es:";
    for(i=0;i<5;i++)
    cout<<" "<<b[i];
    cout<<"" <<endl;
    cout<<""<<endl;
    cout<<"       Presione cualquier tecla para regresar al menu de inicio"<<endl;
getch();
}
```

Start to review: 21:02 pm
End to review: 21:16 pm

The program has the objective of making 10 basic methods of ordering numeric values in arrays, the understanding of the previously written code was complicated because although I was able to guide myself by the name of some functions (they are badly named anyway), There are several variables with names that I don't know what they do at first glance. Various methodical and specific processes are performed on each function and it is difficult to understand if the variables involved have generic names that do not indicate anything.

The program is executed and shows a menu with a switch which requests a number, at this point the program directly stops executing, marking an error if an alphabetic or special character is entered (the values entered in the menu are not validated). In the same way, when accessing the desired option, if a non-numeric value is entered in the array, the program directly places the value of 0 (the values entered in any option are not validated). It has many errors and several principles of reusability and clean code are not met.