

The screenshot shows the PyCharm IDE interface with the following details:

- Project:** ProyectoDANA
- File:** main.py
- Code:**

```
1 import sys
2
3 from PySide6.QtWidgets import QApplication
4
5 from SERVICIOS.persona import PersonaServicio
6
7 app = QApplication()
8 vtn_principal = PersonaServicio()
9 vtn_principal.show()
10 sys.exit(app.exec_())
```

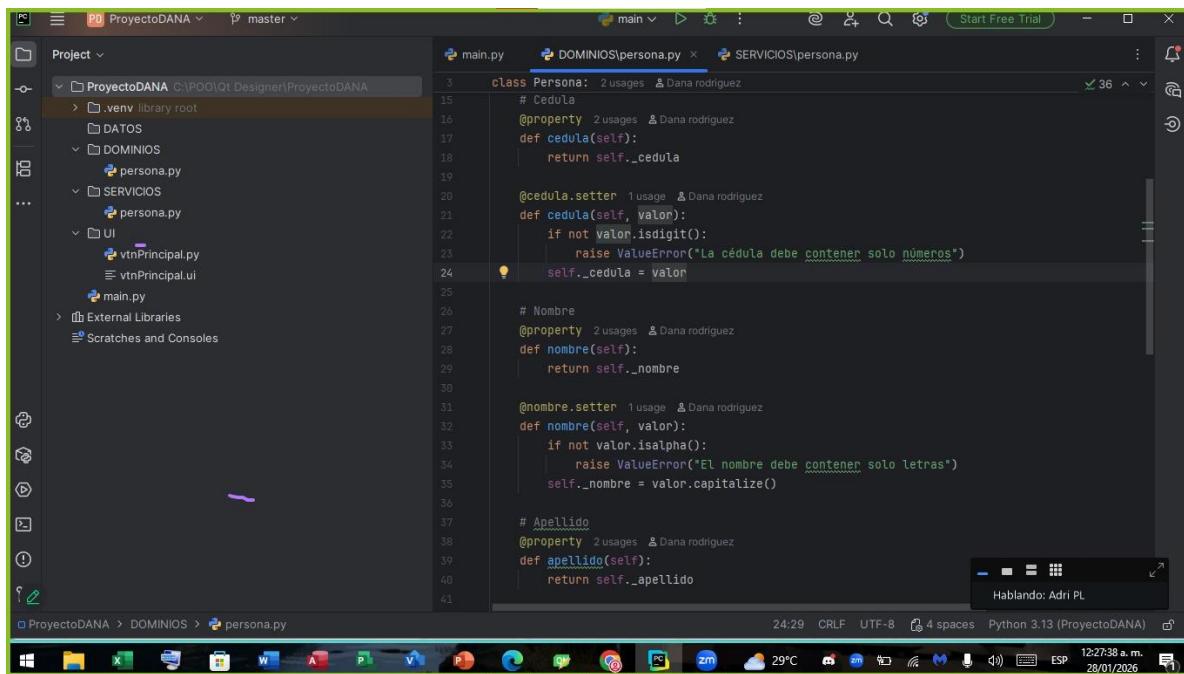
- Toolbars and Status Bar:** Includes icons for file operations, search, and help. The status bar shows: 10:21 CRLF UTF-8 4 spaces Python 3.13 (ProyectoDANA) 12:26:43 a.m. 28/01/2026.

The screenshot shows the PyCharm IDE interface with the following details:

- Project:** ProyectoDANA
- File:** DOMINIOS\persona.py
- Code:**

```
1 import re
2
3 class Persona: 2 usages & Dana rodíguez
4     """
5         Clase que permite crear objetos de tipo persona
6     """
7
8     def __init__(self, cedula: str, nombre: str, apellido: str, sexo: str, email: str = None):
9         self.cedula = cedula
10        self.nombre = nombre
11        self.apellido = apellido
12        self.sexo = sexo
13        self.email = email
14
15    # Cedula
16    @property 2 usages & Dana rodíguez
17    def cedula(self):
18        return self._cedula
19
20    @cedula.setter 1 usage & Dana rodíguez
21    def cedula(self, valor):
22        if not valor.isdigit():
23            raise ValueError("La cédula debe contener solo números")
24        self._cedula = valor
25
26    # Nombre
27    @property 2 usages & Dana rodíguez
28    def nombre(self):
```

- Toolbars and Status Bar:** Includes icons for file operations, search, and help. The status bar shows: 24:29 CRLF UTF-8 4 spaces Python 3.13 (ProyectoDANA) 12:27:15 a.m. 28/01/2026.



Screenshot of PyCharm IDE showing the code for `persona.py` in the `DOMINIOS` directory of the `ProyectoDANA` project. The code defines a `Persona` class with properties for `cedula`, `nombre`, `apellido`, and `sexo`. It includes validation logic for each property.

```
class Persona:
    # Cédula
    @property
    def cedula(self):
        return self._cedula

    @cedula.setter
    def cedula(self, valor):
        if not valor.isdigit():
            raise ValueError("La cédula debe contener solo números")
        self._cedula = valor

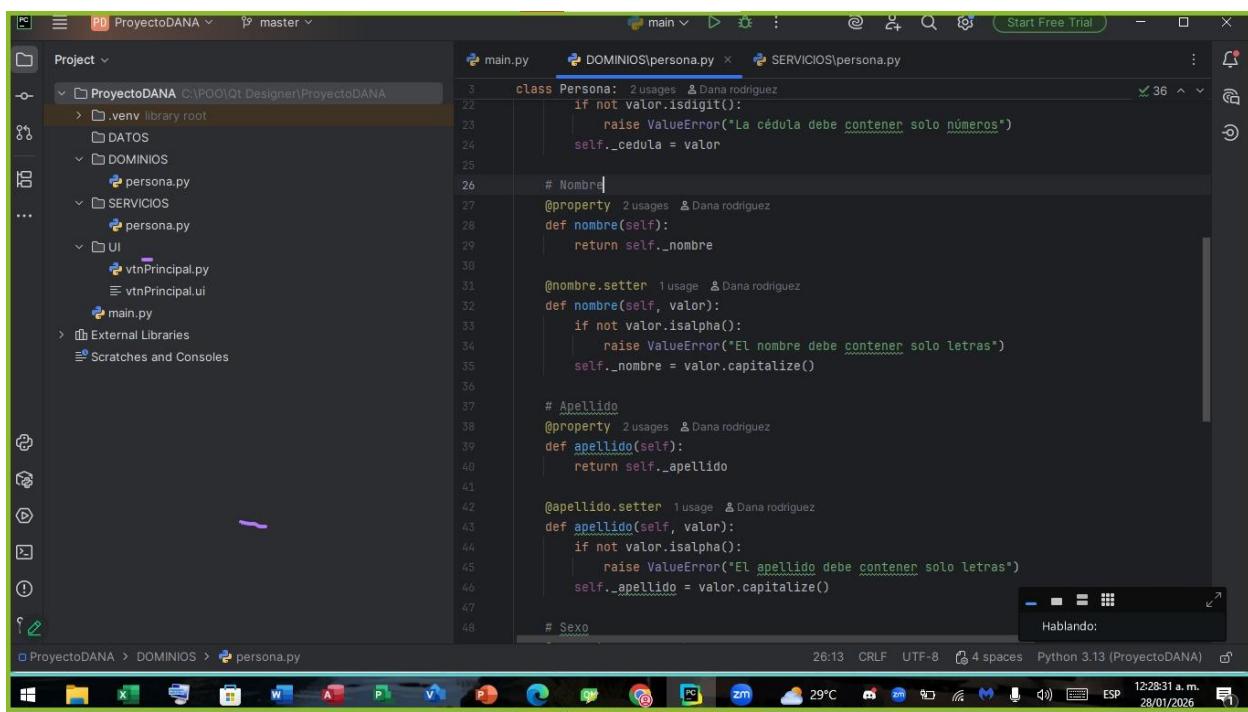
    # Nombre
    @property
    def nombre(self):
        return self._nombre

    @nombre.setter
    def nombre(self, valor):
        if not valor.isalpha():
            raise ValueError("El nombre debe contener solo letras")
        self._nombre = valor.capitalize()

    # Apellido
    @property
    def apellido(self):
        return self._apellido

    @apellido.setter
    def apellido(self, valor):
        if not valor.isalpha():
            raise ValueError("El apellido debe contener solo letras")
        self._apellido = valor.capitalize()

    # Sexo
```



Screenshot of PyCharm IDE showing the code for `persona.py` in the `DOMINIOS` directory of the `ProyectoDANA` project. The code defines a `Persona` class with properties for `cedula`, `nombre`, `apellido`, and `sexo`. It includes validation logic for each property.

```
class Persona:
    # Cédula
    if not valor.isdigit():
        raise ValueError("La cédula debe contener solo números")
    self._cedula = valor

    # Nombre
    @property
    def nombre(self):
        return self._nombre

    @nombre.setter
    def nombre(self, valor):
        if not valor.isalpha():
            raise ValueError("El nombre debe contener solo letras")
        self._nombre = valor.capitalize()

    # Apellido
    @property
    def apellido(self):
        return self._apellido

    @apellido.setter
    def apellido(self, valor):
        if not valor.isalpha():
            raise ValueError("El apellido debe contener solo letras")
        self._apellido = valor.capitalize()

    # Sexo
```

The screenshot shows the PyCharm IDE interface with the following details:

- Project:** ProyectoDANA
- File:** DOMINIOS\persona.py
- Code (Excerpt):**

```
3   class Persona: 2 usages & Dana rodriguez
4   @apellido.setter 1 usage & Dana rodriguez
5       def apellido(self, valor):
6           if not valor.isalpha():
7               raise ValueError("El apellido debe contener solo letras")
8           self._apellido = valor.capitalize()
9
10      # Sexo
11      @property 2 usages & Dana rodriguez
12          def sexo(self):
13              return self._sexo
14
15          @sexo.setter 1 usage & Dana rodriguez
16          def sexo(self, valor):
17              if valor.lower() not in ["masculino", "femenino", "prefiero no decirlo"]:
18                  raise ValueError("El sexo debe ser 'Masculino', 'Femenino' o 'Prefiero no decirlo'")
19              self._sexo = valor.lower()
20
21      # Email
22      @property 2 usages & Dana rodriguez
23          def email(self):
24              return self._email
25
26          @email.setter 1 usage & Dana rodriguez
27          def email(self, valor):
28              if valor is None:
29                  self._email = None
30              else:
```

The code defines a `Persona` class with properties for `apellido`, `sexo`, and `email`. It includes validation logic for each property's setter method.

The screenshot shows the PyCharm IDE interface with the following details:

- Project:** ProyectoDANA
- File:** DOMINIOS\persona.py
- Code (Excerpt):**

```
3   class Persona: 2 usages & Dana rodriguez
4   @apellido.setter 1 usage & Dana rodriguez
5       def apellido(self, valor):
6           if not valor.isalpha():
7               raise ValueError("El apellido debe contener solo letras")
8           self._apellido = valor.lower()
9
10      # Sexo
11      @property 2 usages & Dana rodriguez
12          def sexo(self):
13              return self._sexo
14
15          @sexo.setter 1 usage & Dana rodriguez
16          def sexo(self, valor):
17              if valor.lower() not in ["masculino", "femenino", "prefiero no decirlo"]:
18                  raise ValueError("El sexo debe ser 'Masculino', 'Femenino' o 'Prefiero no decirlo'")
19              self._sexo = valor.lower()
20
21      # Email
22      @property 2 usages & Dana rodriguez
23          def email(self):
24              return self._email
25
26          @email.setter 1 usage & Dana rodriguez
27          def email(self, valor):
28              if valor is None:
29                  self._email = None
30              else:
31                  patron = r'^[\w\.-]+@[^\w\.-]+\.\w+$'
32                  if not re.match(patron, valor):
33                      raise ValueError("Email inválido, debe tener formato correcto")
34                  self._email = valor
35
36      # Representación en cadena
37      def __str__(self): & Dana rodriguez
38          return f'Persona: {self.nombre}, {self.apellido}, Cédula: {self.cedula}, Sexo: {self.sexo}'
```

The code for the `email` property includes a regular expression pattern (`patron`) to validate email addresses. The `__str__` method is also defined to provide a string representation of the `Persona` object.

PyQt Designer screenshot showing the code editor for `PERSONASERVICE.py`. The code defines a service class that interacts with a UI window and validates input fields.

```
from PySide6.QtGui import QIntValidator
from PySide6.QtWidgets import QMainWindow, QMessageBox

from DOMINIOS.persona import Persona
from UI.vtnPrincipal import Ui_vtnPrincipal

class PersonaServicio(QMainWindow):
    def __init__(self):
        super(PersonaServicio, self).__init__()
        self.ui = Ui_vtnPrincipal()
        self.ui.setupUi(self)
        self.ui.btGuardar.clicked.connect(self.guardar)
        self.ui.btLimpiar.clicked.connect(self.limpiar)
        self.ui.txtCedula.setValidator(QIntValidator())

    def guardar(self):
        nombre = self.ui.txtNombre.text()
        apellido = self.ui.txtApellidos.text()
        cedula = self.ui.txtCedula.text()
        sexo = self.ui.cbSexo.currentText()
        email = self.ui.txtEmail.text()

        # validacion de datos del formulario
        if nombre == "":
            QMessageBox.warning(self, title='Advertencia', text='Debe ingresar el nombre')
        elif apellido == "":
            QMessageBox.warning(self, title='Advertencia', text='Debe ingresar el apellido')
        elif len(cedula) < 10:
            QMessageBox.warning(self, title='Advertencia', text='Debe ingresar la cedula')
        elif sexo == "Seleccionar":
            QMessageBox.warning(self, title='Advertencia', text='Debe seleccionar el sexo')
        elif email == "":
            QMessageBox.warning(self, title='Advertencia', text='Debe ingresar el email')
        else:
            try:
                persona = Persona(cedula=cedula, nombre=nombre, apellido=apellido, sexo=sexo, email=email)
                print(persona)
            except:
                QMessageBox.critical(self, title='Error', text='Ocurrió un error al guardar la persona')

    def limpiar(self):
        self.ui.txtNombre.clear()
        self.ui.txtApellidos.clear()
        self.ui.txtCedula.clear()
        self.ui.cbSexo.setCurrentIndex(0)
        self.ui.txtEmail.clear()
```

PyQt Designer screenshot showing the code editor for `PERSONASERVICE.py`. The code defines a service class that interacts with a UI window and validates input fields, including handling empty fields and displaying error messages using QMessageBox.

```
class PersonaServicio(QMainWindow):
    def __init__(self):
        super(PersonaServicio, self).__init__()
        self.ui.txtCedula.setValidator(QIntValidator())

    def guardar(self):
        nombre = self.ui.txtNombre.text()
        apellido = self.ui.txtApellidos.text()
        cedula = self.ui.txtCedula.text()
        sexo = self.ui.cbSexo.currentText()
        email = self.ui.txtEmail.text()

        # validacion de datos del formulario
        if nombre == "":
            QMessageBox.warning(self, title='Advertencia', text='Debe ingresar el nombre')
        elif apellido == "":
            QMessageBox.warning(self, title='Advertencia', text='Debe ingresar el apellido')
        elif len(cedula) < 10:
            QMessageBox.warning(self, title='Advertencia', text='Debe ingresar la cedula')
        elif sexo == "Seleccionar":
            QMessageBox.warning(self, title='Advertencia', text='Debe seleccionar el sexo')
        elif email == "":
            QMessageBox.warning(self, title='Advertencia', text='Debe ingresar el email')
        else:
            try:
                persona = Persona(cedula=cedula, nombre=nombre, apellido=apellido, sexo=sexo, email=email)
                print(persona)
            except:
                QMessageBox.critical(self, title='Error', text='Ocurrió un error al guardar la persona')

    def limpiar(self):
        self.ui.txtNombre.clear()
        self.ui.txtApellidos.clear()
        self.ui.txtCedula.clear()
        self.ui.cbSexo.setCurrentIndex(0)
        self.ui.txtEmail.clear()
```

The screenshot shows the PyCharm IDE interface with the following details:

- Project:** ProyectoDANA
- File:** persona.py (under SERVICIOS)
- Code Content:**

```
8     class PersonaServicio(QMainWindow): 3 usages  Dana rodriguez
20         def guardar(self): 1 usage  Dana rodriguez
21             if apellido == "":
22                 QMessageBox.warning(self, title: "Advertencia", text: "Debe ingresar el apellido")
23             elif len(cedula) < 10:
24                 QMessageBox.warning(self, title: "Advertencia", text: "Debe ingresar la cedula")
25             elif sexo == "Seleccionar":
26                 QMessageBox.warning(self, title: "Advertencia", text: "Debe seleccionar el sexo")
27             elif email == "":
28                 QMessageBox.warning(self, title: "Advertencia", text: "Debe ingresar el email")
29             else:
30                 try:
31                     persona = Persona(cedula=cedula, nombre=nombre, apellido=apellido, sexo=sexo, email=email)
32                     print(persona)
33
34                     # mostrar confirmacion de que se guardo
35                     self.ui.statusbar.showMessage('Se guardó la información', 3000)
36
37                     # Borrar los campos del formulario
38                     self.ui.txtNombre.setText('')
39                     self.ui.txtApellidos.setText('')
40                     self.ui.txtCedula.setText('')
41                     self.ui.txtEmail.setText('')
42                     self.ui.cbSexo.setCurrentText('Seleccionar')
43
44
45             except ValueError as e:
46                 # Captura errores de validación de la clase Persona
47                 QMessageBox.warning(self, title: 'Error de validación', str(e))
48
49
50
51
52
53
54
55
56
57
58
59
60
61
```

- Toolbars and Status Bar:** Standard PyCharm toolbars. Status bar shows: 14:36 CRLF UTF-8 4 spaces Python 3.13 (ProyectoDANA) 12:31:30 a.m. 28/01/2026

This screenshot is nearly identical to the one above, showing the same code in persona.py. The main difference is the status bar message at the bottom right:

Hablando: Adri PL

The rest of the interface, including the project tree, code editor, and toolbars, is identical.

