```python
"""
Author: Coral S. Schmidt Montilla
Student Number: 148830
Filename: main.py
This file demonstrates polymorphism with community members:
    It does this by by creating instances of `Employee` and  `Teacher`, prompting
for information,
    and printing out the details of each community member.
"""

from Employee import Employee
from Teacher import Teacher

def main():
    community_members = []

    while True:
        print("\nMenu:")
        print("1. Enter Employee Information")
        print("2. Enter Teacher Information")
        print("3. Exit")

        choice = input("Enter your choice (1, 2, or 3): ")

        if choice == "1":
            print("\nEmployee information ")
            employee = Employee()
            employee.ask()
            community_members.append(employee)
        elif choice == "2":
            print("\nTeacher information ")
            teacher = Teacher()
            teacher.ask()
            community_members.append(teacher)
        elif choice == "3":
            print("Exiting program...")
            break
        else:
            print("Invalid choice. Please enter 1, 2, or 3.")

    print("\nCommunity Members:")
    for member in community_members:
        print(member)
        print()
```

```python
if __name__ == "__main__":
    main()


"""
Author: Coral S. Schmidt Montilla
Student Number: 148830
Filename: Teacher.py
This file defines the Teacher class:
    It implements the `Teacher` class, a subclass of both `Employee` and
`Faculty`,
    which represents a teacher, inheriting attributes and methods from both
parent
    classes and providing functionality specific to teachers, such as calculating
    payment amount.
"""

from Employee import Employee
from Faculty import Faculty

class Teacher(Employee, Faculty):
    def __init__(self, fullName="", ssn="", position="", className="", credits=0,
paymentByClass=0.0):
        Employee.__init__(self, fullName, ssn, position)
        Faculty.__init__(self, fullName, ssn, className)
        self._credits = credits
        self._paymentByClass = paymentByClass

    def getCredits(self):
        return self._credits

    def setCredits(self, credits):
        if credits <= 0:
           raise ValueError("Credits should be greater than zero.")
        self._credits = credits


    def getPaymentByClass(self):
        return self._paymentByClass

    def setPaymentByClass(self, paymentByClass):
        self._paymentByClass = paymentByClass

    def getPaymentAmount(self):
        return self._credits * self._paymentByClass
```

```
    def ask(self):
        print("Please provide the information for the Teacher:")
        self.setFullName(input("Full Name: "))
        self.setSSN(input("Social Security Number: "))
        self.setPosition(input("Position: "))
        self.setClassName(input("Class Name: "))
        self.setCredits(int(input("Credits: ")))
        self.setPaymentByClass(float(input("Payment By Class: ")))

    def __str__(self):
        return f"Teacher: {self.getFullName()}, SSN: {self.getSSN()}, Position:
{self.getPosition()}, Class Name: {self.getClassName()}, Credits:
{self.getCredits()}, Payment By Class: {self.getPaymentByClass()}"
"""
Author: Coral S. Schmidt Montilla
Student Number: 148830
Filename: Faculty.py
This file defines the Faculty class:
    It implements the `Faculty` class, a subclass of `CommunityMember`, which
represents a faculty member
    and includes methods to manage faculty-specific data such as the class they
teach.
"""

from CommunityMember import CommunityMember

class Faculty(CommunityMember):
    def __init__(self, fullName="", ssn="", className=""):
        super().__init__(fullName, ssn)
        self._className = className

    def getClassName(self):
        return self._className

    def setClassName(self, className):
        self._className = className

    def __str__(self):
        return f"Faculty: {self.getFullName()}, SSN: {self.getSSN()}, Class Name:
{self.getClassName()}"
"""
Author: Coral S. Schmidt Montilla
Student Number: 148830
Filename: Employee.py
```

```
This file defines the Employee class:
    It implements the `Employee` class, a subclass of `CommunityMember`, which
    represents an employee and includes methods to manage employee-specific
    data such as position.
"""

from CommunityMember import CommunityMember

class Employee(CommunityMember):
    def __init__(self, fullName="", ssn="", position=""):
        super().__init__(fullName, ssn)
        self._position = position

    def getPosition(self):
        return self._position

    def setPosition(self, position):
        self._position = position

    def ask(self):
        print("Please provide the information for the Employee:")
        self.setFullName(input("Full Name: "))
        self.setSSN(input("Social Security Number: "))
        self.setPosition(input("Position: "))

    def getPaymentAmount(self):
        return 0

    def __str__(self):
        return f"\nEmployee: {self.getFullName()}, SSN: {self.getSSN()},
Position: {self.getPosition()}"

"""
Author: Coral S. Schmidt Montilla
Student Number: 148830
Filename: CommunityMember.py
This file defines the CommunityMember class:
    It defines an abstract base class `CommunityMember` with attributes
    and methods common to all community members.
"""

from abc import ABC, abstractmethod

class CommunityMember(ABC):
    def __init__(self, fullName, ssn):
```

```
        self._fullName = fullName
        self._ssn = ssn

    def getFullName(self):
        return self._fullName

    def setFullName(self, fullName):
        self._fullName = fullName

    def getSSN(self):
        return self._ssn

    def setSSN(self, ssn):
        self._ssn = ssn

    @abstractmethod
    def getPaymentAmount(self):
        pass

    @abstractmethod
    def ask(self):
        pass
```

Output:

```
xe' 'c:\Users\coral\.vscode\extensions\ms-python.debugpy-2024.2.0-win32-x64\bundled\libs\debugpy\adapter/../..\debugpy\launcher' '54005' '--' 'C:\Us
ers\coral\OneDrive\Desktop\Computer Science\Advanced Programming\Examen1\main.py'

Menu:
1. Enter Employee Information
2. Enter Teacher Information
3. Exit
Enter your choice (1, 2, or 3): 1

Employee information
Please provide the information for the Employee:
Full Name: Coral Schmidt
Social Security Number: 134-84-9836
Position: Director of Computer Science

Menu:
1. Enter Employee Information
2. Enter Teacher Information
3. Exit
Enter your choice (1, 2, or 3): 2

Teacher information
Please provide the information for the Teacher:
Full Name: Alonso Montilla
Social Security Number: 137-94-7353
Position: Professor
Class Name: Advanced Programming
Credits: 3
Payment By Class: 400.00

Menu:
1. Enter Employee Information
2. Enter Teacher Information
3. Exit
Enter your choice (1, 2, or 3): 3
Exiting program...

Community Members:

Employee: Coral Schmidt, Social Security Number: 134-84-9836, Position: Director of Computer Science

Teacher: Alonso Montilla, SSN: 137-94-7353, Position: Professor, Class Name: Advanced Programming, Credits: 3, Payment By Class: 400.0

PS C:\Users\coral\OneDrive\Desktop\Computer Science\Advanced Programming\Examen1>


                                                                    >  c:; cd 'c:\Users\coral\OneDrive\Desktop\Computer Science\Advanced
 Programming\Examen1'; & 'c:\Users\coral\AppData\Local\Programs\Python\Python39\python.exe' 'c:\Users\coral\.vscode\extensions\ms-python.debugpy-202
4.2.0-win32-x64\bundled\libs\debugpy\adapter/../..\debugpy\launcher' '53655' '--' 'C:\Users\coral\OneDrive\Desktop\Computer Science\Advanced Program
ming\Examen1\main.py'

Employee information

Please provide the information for the Employee:
Full Name: Coral Schmidt
Social Security Number: 254-63-8547
Position: Director of Computer Science
Social Security Number: 743-84-9272
Position: Professor
Class Name: Advanced Programming
Credits: 3
Payment By Class: 400.00

Employee: Coral Schmidt, SSN: 254-63-8547, Position: Director of Computer Science

Teacher: Alonso Montilla, SSN: 743-84-9272, Position: Professor, Class Name: Advanced Programming, Credits: 3, Payment By Class: 400.0

PS C:\Users\coral\OneDrive\Desktop\Computer Science\Advanced Programming\Examen1>
```