Mid Term

Time: 1 Hour Marks: 20

Task Description

1. **Create a Base Class (`EducationalInstitution`)**
   - Attributes:
     - `institutionName` (String)
     - `location` (String)
     - `establishedYear` (int)
   - Methods:
     - Constructor to initialize all attributes.
     - `displayDetails()` - Prints the details of the institution.
     - A method `calculateAge()` to calculate and return the age of the institution based on the current year.
2. **Create Subclass `HighSchool`**
   - Attributes (in addition to the base class):
     - `schoolType` (String, e.g., "Public", "Private")
     - `numberOfStudents` (int)
   - Methods:
     - Constructor to initialize all attributes (use `super` to initialize base class attributes).
     - Override the `displayDetails()` method to include the additional attributes of `HighSchool`.
3. **Create Subclass `University`**
   - Attributes (in addition to the base class):
     - `numberOfDepartments` (int)
     - `isResearchInstitution` (boolean)
   - Methods:
     - Constructor to initialize all attributes (use `super` to initialize base class attributes).
     - Override the `displayDetails()` method to include the additional attributes of `University`.
4. **Write a `Main` Class**
   - Create instances of `HighSchool` and `University`.
   - Populate them with sample data.
   - Call the `displayDetails()` and `calculateAge()` methods for both instances.