

STUDENT ACTIVITY 2.2: INHERITANCE

MTA Course: Software Development Fundamentals

Topic: Understand inheritance

File name: SoftDevFund_SA_2.2

Lesson Objective:

2.2: Understand inheritance.

Resources, software, and additional files needed for this lesson:

- None

Directions to the student:

Answer the following questions.

Content:

Questions 1–3 refer to the Employee, Supervisor, and Assistant classes partially defined below.

```
public class Employee
{
    // Instance variables here
    // Constructors and other methods here

    public void work()
    {
        Console.WriteLine("Employee working.");
    }
}

public class Supervisor: Employee
{
    // Instance variables here
    // Constructors and other methods here
```

```

public void work()
{
    Console.WriteLine("Supervisor working.");
}

}

public class Assistant : Employee
{
    // Instance variables here
    // Constructors and other methods here

public void work()
{
    Console.WriteLine("Assistant working.");
}

}

```

1. Indicate which of the following declarations will cause a compile-time error:

- a. `Employee employA = new Employee();`
- b. `Employee employB = new Supervisor();`
- c. `Supervisor employC = new Supervisor();`
- d. `Supervisor employD = new Employee();`
- e. `Assistant employE = new Supervisor();`

2. Consider the following declarations:

```

Employee employ1 = new Employee();
Supervisor employ2 = new Supervisor();
Employee employ3 = new Supervisor();

```

Identify the following assignments as legal or illegal:

- a. `employ1 = employ2;`
- b. `employ2 = (Supervisor) employ3;`
- c. `employ1 = (Supervisor) employ2;`

3. Consider the following declarations:

```

Employee employ1 = new Employee();
Supervisor employ2 = new Supervisor();
Employee employ3 = new Supervisor();

```

Predict the output of the following code segment:

```

employ1 = employ2;
employ1.work();
employ3.work();

```