# CSCI 345 - Object Oriented Design

# Assignment 04

# Class Inheritance, Abstract Base Classes, and Runtime-Binding

# Program Specification

Mr. Pumphry, the renowned project manager of all quirky projects, has tasked you, the newly hired junior software developer, to implement the following UML Class Diagram:

Diagram

Description automatically generated

1. Based on the UML diagram, create the class implementations.
2. Below is the test program.

using System;

using System.Collections.Generic;

class Program

{

static void Main(string[] args)

{

List<Appliance> appliances = new List<Appliance>();

//Input

Appliance maytag = new Fridge("Maytag");

Appliance amana = new Oven("Amana");

Appliance kitchenAid = new Dishwasher("Kitchen Aid");

Appliance whirlpool = new Dishwasher("Whirlpool");

appliances.Add(maytag);

appliances.Add(amana);

appliances.Add(kitchenAid);

appliances.Add(whirlpool);

//Process & Output

DescribeYourselves(appliances);

TurnOnAppliances(appliances);

DescribeYourselves(appliances);

TurnOffAppliances(appliances);

DescribeYourselves(appliances);

Console.ReadLine();

}

public static void DescribeYourselves(List<Appliance> appliances)

{

foreach (Appliance appliance in appliances)

{

Console.WriteLine(appliance.Description());

}

Console.WriteLine();

}

public static void TurnOnAppliances(List<Appliance> appliances)

{

foreach (Appliance appliance in appliances)

{

appliance.TurnOn();

}

Console.WriteLine();

}

public static void TurnOffAppliances(List<Appliance> appliances)

{

foreach (Appliance appliance in appliances)

{

appliance.TurnOff();

}

Console.WriteLine();

}

}