public class Rule

{

public int Number { get; }

public string Message { get; }

public Rule(int number, string message)

{

Number = number;

Message = message;

}

}

public class A

{

private readonly List<Rule> rules;

public A()

{

rules = new List<Rule>

{

new Rule(3, "foo"),

new Rule(4, "bazz"),

new Rule(5, "bar"),

new Rule(7, "jazz"),

new Rule(9, "huzz")

};

}

public void AddRule(int number, string message)

{

// Check if the rule already exists and update it

for (int i = 0; i < rules.Count; i++)

{

if (rules[i].Number == number)

{

rules[i] = new Rule(number, message);

return;

}

}

// If rule does not exist, add it

rules.Add(new Rule(number, message));

}

public void GenerateOutput(int input)

{

for (int i = 1; i <= input; i++)

{

string print = "";

// Check for custom rules

foreach (var rule in rules)

{

if (i % rule.Number == 0)

{

print += rule.Message;

}

}

// Default behavior if no custom rule matches

if (print == "")

{

print = i.ToString();

}

Console.WriteLine(print);

}

}

}

class Program

{

static void Main()

{

A instance = new A();

while (true)

{

Console.WriteLine("Enter a number to generate output:");

string userInput = Console.ReadLine();

if (int.TryParse(userInput, out int result))

{

instance.GenerateOutput(result);

}

else

{

Console.WriteLine("Please enter a valid integer.\n");

continue; // Restart the loop to ask for a number

}

while (true)

{

Console.WriteLine("\nDo you want to add a rule (Y/N):");

string userRule = Console.ReadLine();

if (userRule.ToUpper() == "Y")

{

Console.WriteLine("\n===================New Rule====================");

while (true)

{

Console.WriteLine("\nPlease enter a number for the new rule: ");

string userRuleNumber = Console.ReadLine();

if (int.TryParse(userRuleNumber, out int newRuleNumber))

{

Console.WriteLine("Please enter a message for the rule: ");

string userRuleMessage = Console.ReadLine();

instance.AddRule(newRuleNumber, userRuleMessage);

Console.WriteLine("\n=================New Rule Added=================");

break; // Break out of the inner loop to ask about another rule

}

else

{

Console.WriteLine("Please enter a valid integer.");

}

}

}

else if (userRule.ToUpper() == "N")

{

break;

}

else

{

Console.WriteLine("Please enter Y or N.");

}

}

}

}

}