

3. Find all existing issues with the code snippets presented below. It is highly important to try working this out on paper by tracing through the statements and then input the code into your IDE. Run it to see if you are correct, and then see if you can fix the code.

a)

```
1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6
7 namespace _1.P Part 3
8 {
9     internal class Program
10     {
11         static void Main(string[] args)
12         {
13             int number = 50;
14             if (number == 50)
15             {
16                 Console.WriteLine("Number is 50");
17             }
18             Console.ReadLine();
19         }
20     }
21 }
22
23
```

Number is 50

Diagnostics session: 8 seconds

Events

Process Memory (MB)

CPU (% of all processors)

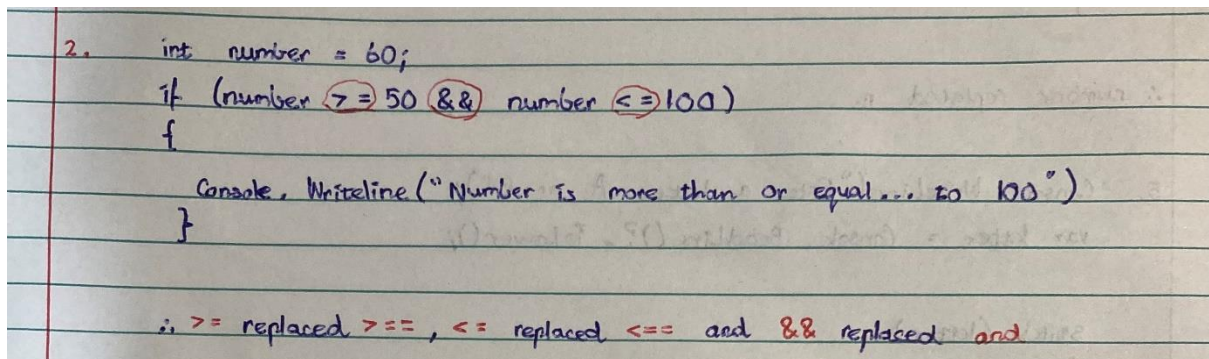
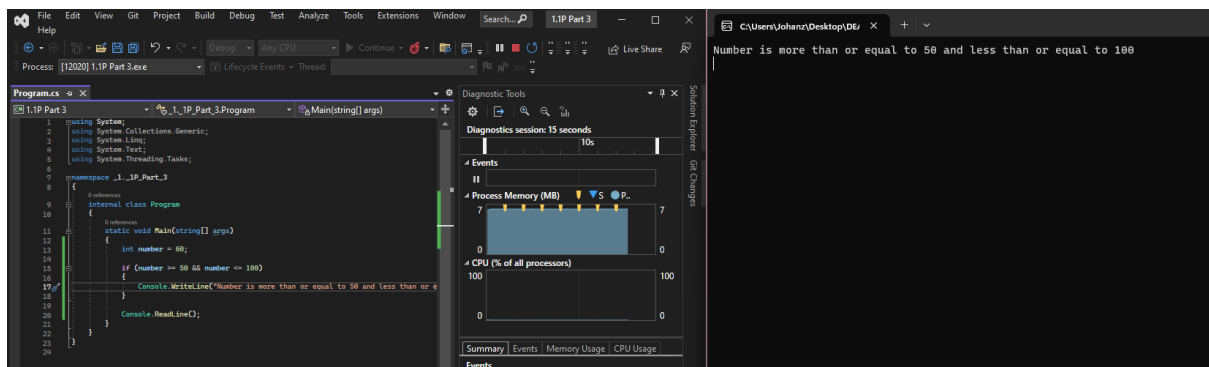
Summary Events Memory Usage CP

Practical Task 1.1P Question 4

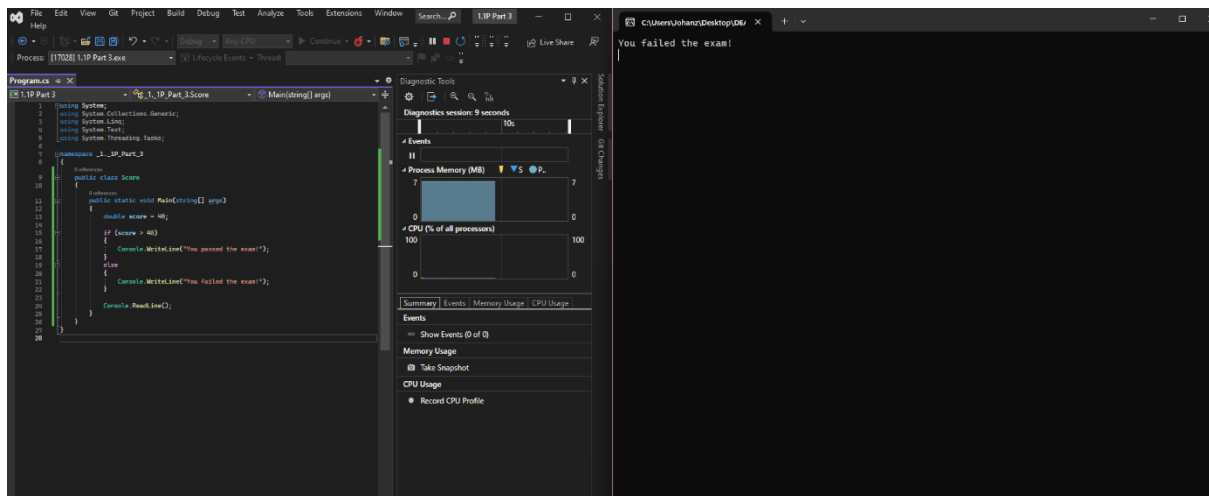
1. `int number = 50;`  
`if (number == 50);`  
`{`  
`Console.WriteLine("Number is 50");`  
`}`

∴ No fixes required

b)



c)



```

3. public class Score
{
    public static void Main(string[] args)
    {
        double score = 40;

        if (score > 40)
        {
            Console.WriteLine("You passed the exam!");
        }
        else
        {
            Console.WriteLine("You failed the exam!");
        }
    }
}

```

∴ Main replaced main and else replaced else score < 40  
 ∴ Output: You failed the exam

d)

The screenshot shows the Visual Studio IDE with a C# program named '1.IP Part 3'. The code is as follows:

```

1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6
7 namespace _1_IP_Part_3
8 {
9     class Program
10     {
11         static void Main(string[] args)
12         {
13             Console.WriteLine("Enter a number (as an integer): ");
14             int number = Convert.ToInt32(Console.ReadLine());
15             switch(number)
16             {
17                 case 1: Console.WriteLine("The number is 1"); break;
18                 case 2: Console.WriteLine("The number is 2"); break;
19                 default: Console.WriteLine("The number is not 1 or 2"); break;
20             }
21             Console.ReadLine();
22         }
23     }
24 }

```

The output window on the right shows the following text:

```

Enter a number (as an integer):
1
The number is 1

```

The 'Diagnostics' pane on the right shows a session of 13 seconds with no events, 7 MB of process memory, and 0% CPU usage.



```

4. Console.WriteLine("Enter number (as an integer): ");
   int number = Convert.ToInt32(Console.ReadLine());

   switch (number)
   {
       case 1: Console.WriteLine("The number is 1"); break;
       case 2: Console.WriteLine("The number is 2"); break;
       default: Console.WriteLine("The number is not 1 or 2");
               break;
   }

```

Added so the program would make sense

break; - break was added

∴ number replaced n

e)

```

1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6
7 namespace _1_1P_Part_3
8 {
9     internal class Program
10     {
11         static void Main(string[] args)
12         {
13             Console.WriteLine("Enter a letter A or B");
14             var letter = Console.ReadLine().ToLower();
15
16             switch (letter)
17             {
18                 case "a": Console.WriteLine("A"); break;
19                 case "b": Console.WriteLine("B"); break;
20                 default: Console.WriteLine("Invalid input. Enter A or B");
21                         break;
22             }
23
24             Console.ReadLine();
25         }
26     }
27 }
28

```

Enter a letter A or B  
C  
Invalid input. Enter A or B

Diagnostics session: 42 seconds

Events

Process Memory (MB)

CPU (% of all processors)

Summary | Events | Memory Usage | CPU Usage

Events

Show Events (0 of 0)

Memory Usage

Take Snapshot

```

5. Console.WriteLine("Enter a letter A or B");
   var letter = Console.ReadLine()?.ToLower();

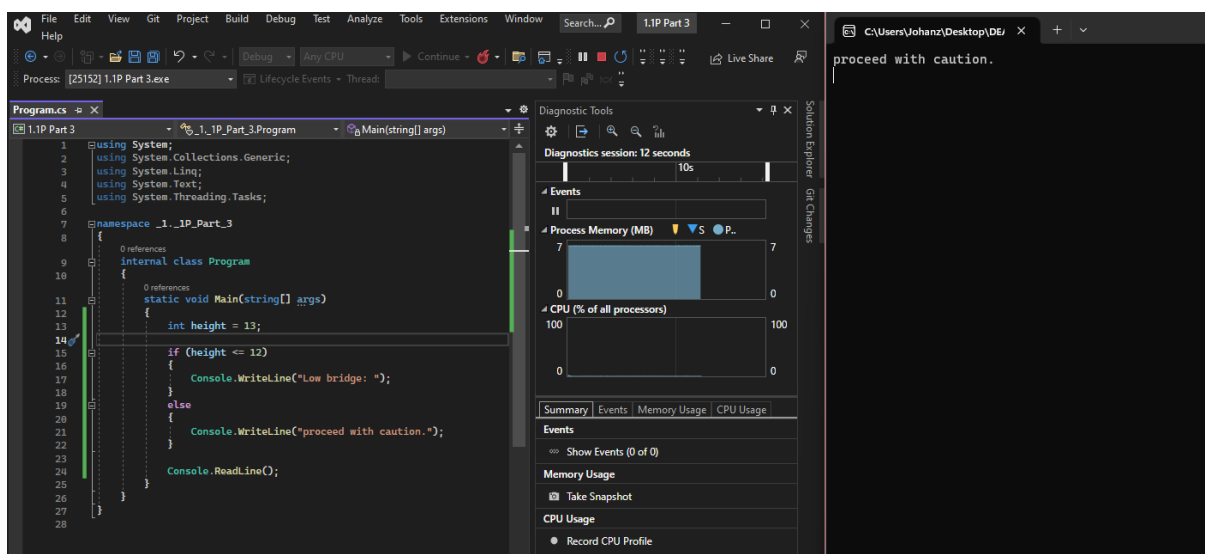
   switch (letter)
   {
       case "a": Console.WriteLine("A"); break;
       case "b": Console.WriteLine("B"); break;
       default: Console.WriteLine("Invalid input. Enter A or B");
                break;
   }

```

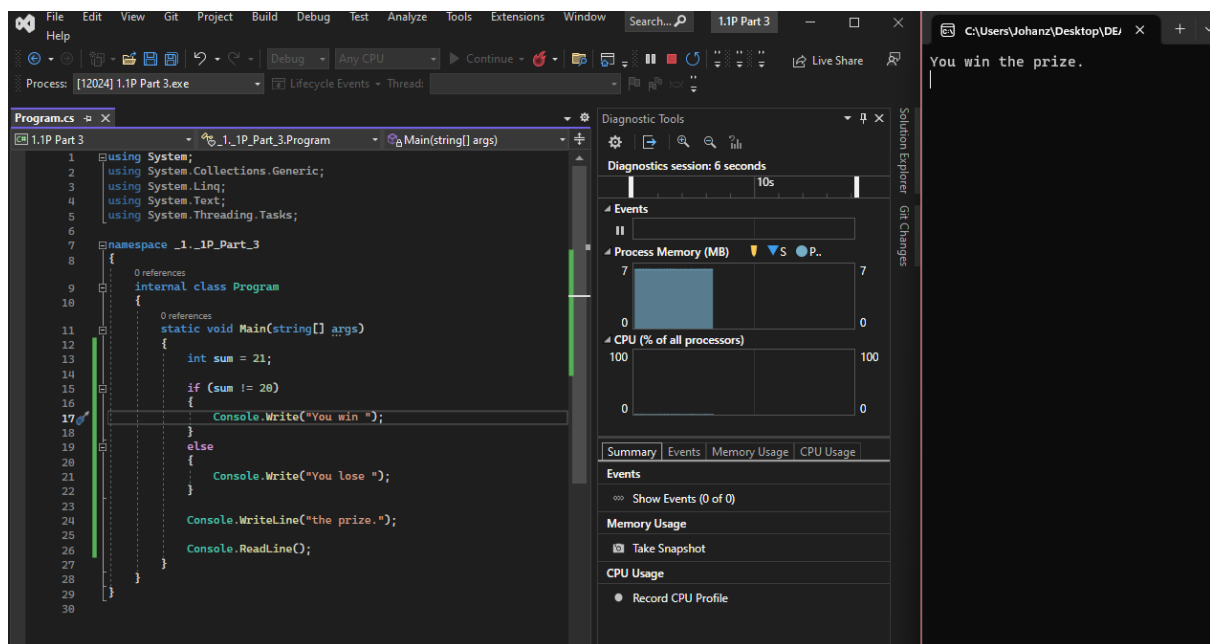
∴ I wasn't sure what this program was supposed to do because it was so similar with the first one. So I decided to be creative.

4. What is the output of the following code fragments? Remember to try working this out on paper by tracing through the statements and then input the code into your IDE. Run it to see if you are correct, and then see if you can fix the code.

a)



b)

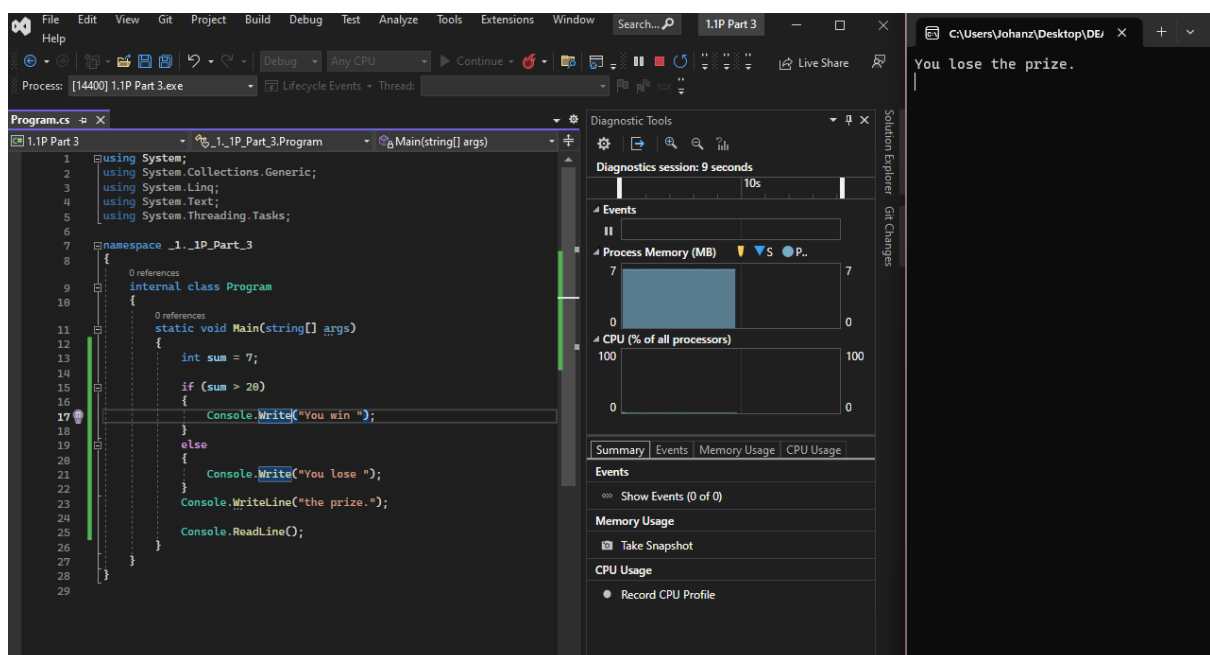


The screenshot shows the Visual Studio IDE with a C# program named `Program.cs` in the `1.1P Part 3` project. The code is as follows:

```
1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6
7 namespace _1.1P_Part_3
8 {
9     internal class Program
10     {
11         static void Main(string[] args)
12         {
13             int sum = 21;
14             if (sum != 20)
15             {
16                 Console.WriteLine("You win ");
17             }
18             else
19             {
20                 Console.WriteLine("You lose ");
21             }
22             Console.WriteLine("the prize.");
23             Console.ReadLine();
24         }
25     }
26 }
```

The program is running, and the output window on the right displays "You win the prize." The Diagnostic Tools window shows a diagnostics session of 6 seconds, with no events, 7 MB of process memory, and 100% CPU usage.

c)



The screenshot shows the Visual Studio IDE with the same C# program as in the previous image, but with a different value for `sum`. The code is as follows:

```
1 using System;
2 using System.Collections.Generic;
3 using System.Linq;
4 using System.Text;
5 using System.Threading.Tasks;
6
7 namespace _1.1P_Part_3
8 {
9     internal class Program
10     {
11         static void Main(string[] args)
12         {
13             int sum = 7;
14             if (sum > 20)
15             {
16                 Console.WriteLine("You win ");
17             }
18             else
19             {
20                 Console.WriteLine("You lose ");
21             }
22             Console.WriteLine("the prize.");
23             Console.ReadLine();
24         }
25     }
26 }
```

The program is running, and the output window on the right displays "You lose the prize." The Diagnostic Tools window shows a diagnostics session of 9 seconds, with no events, 7 MB of process memory, and 100% CPU usage.