

1. Write a program that will request the user to enter their name, gender(M/F) and if they are vaccinated status(Yes/No).

The program will then output the name, gender and True(if answer is Yes for vaccinated) or False(if answer is No for vaccinated) for vaccinated status.

Note : Use string data type for name, Character data type for gender, Boolean data type for vaccinated)

The screenshot shows the Visual Studio IDE with a console application running. The code in the 'Module1' window is as follows:

```
1 Sub Main()  
2     Console.WriteLine("Enter your name: ")  
3     Dim name As String = Console.ReadLine()  
4     Console.WriteLine("Enter your gender (M or F): ")  
5     Dim gender As String = Console.ReadLine()  
6     If gender = "m" Or gender = "M" Then  
7         gender = "Male"  
8     ElseIf gender = "f" Or gender = "F" Then  
9         gender = "Female"  
10    Else  
11        Console.WriteLine("Invalid input")  
12    End If  
13    Console.WriteLine("Enter your vaccination status (Yes or No): ")  
14    Dim vaccination As String = Console.ReadLine()  
15    Dim status As Boolean  
16    If LCase(vaccination) = "yes" Then  
17        status = True  
18    ElseIf LCase(vaccination) = "no" Then  
19        status = False  
20    Else  
21        Console.WriteLine("The input that you entered is invalid")  
22    End If  
23    Console.WriteLine("Name: " & name)  
24    Console.WriteLine("Gender: " & gender)  
25    Console.WriteLine("Status: " & status)  
26    Console.ReadLine()  
27 End Sub  
28 End Module
```

The output window on the right shows the following interaction:

```
Enter your name:  
Abbas  
Enter your gender (M or F):  
m  
Enter your vaccination status (Yes or No):  
no  
Name: Abbas  
Gender: Male  
Status: False
```

2. Write a program to calculate the total area of a circle. The program will ask the user to enter the Radius of the circle.

Formula :Area = Pi * Radius * Radius , Pi = 3.14159

Note : Use Integer data type for Radius, Real data type for Area

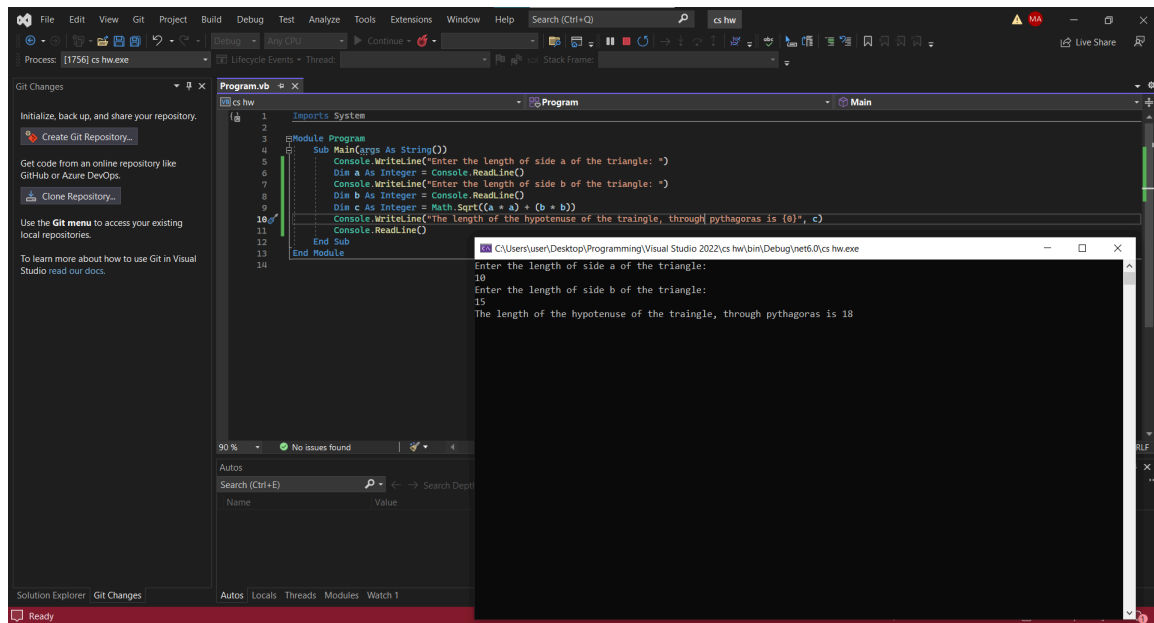
The screenshot shows the Visual Studio IDE with a console application running. The code in the 'Module2' window is as follows:

```
1 Sub Main()  
2     Console.WriteLine("Enter the radius of the circle: ")  
3     Dim radius As Integer = Console.ReadLine()  
4     Console.WriteLine("The area of the circle is " & (radius * radius * 3.14))  
5     Console.ReadLine()  
6 End Sub  
7 End Module
```

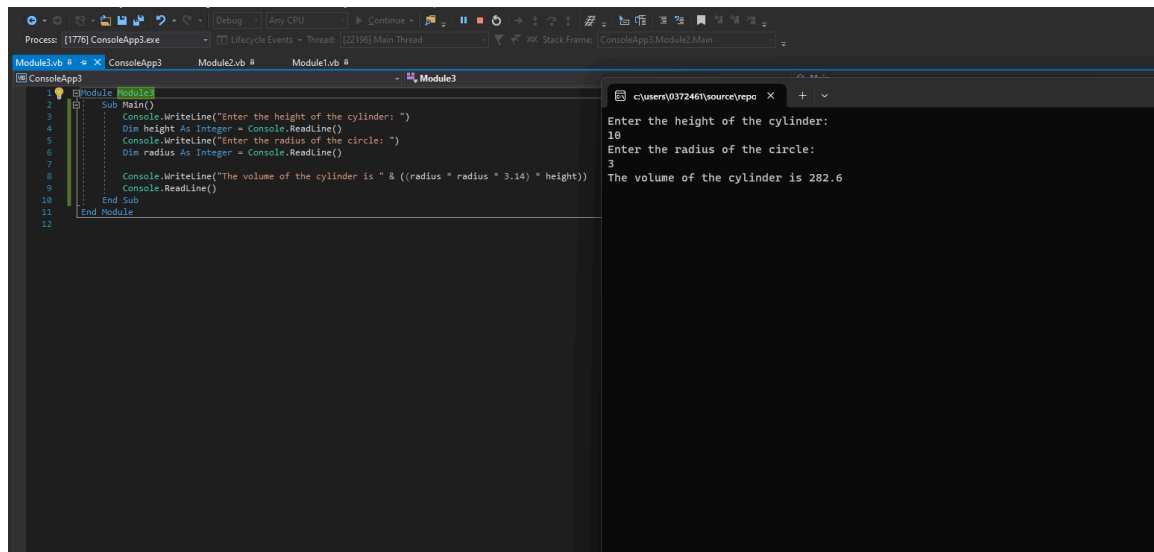
The output window on the right shows the following interaction:

```
Enter the radius of the circle:  
10  
The area of the circle is 314
```

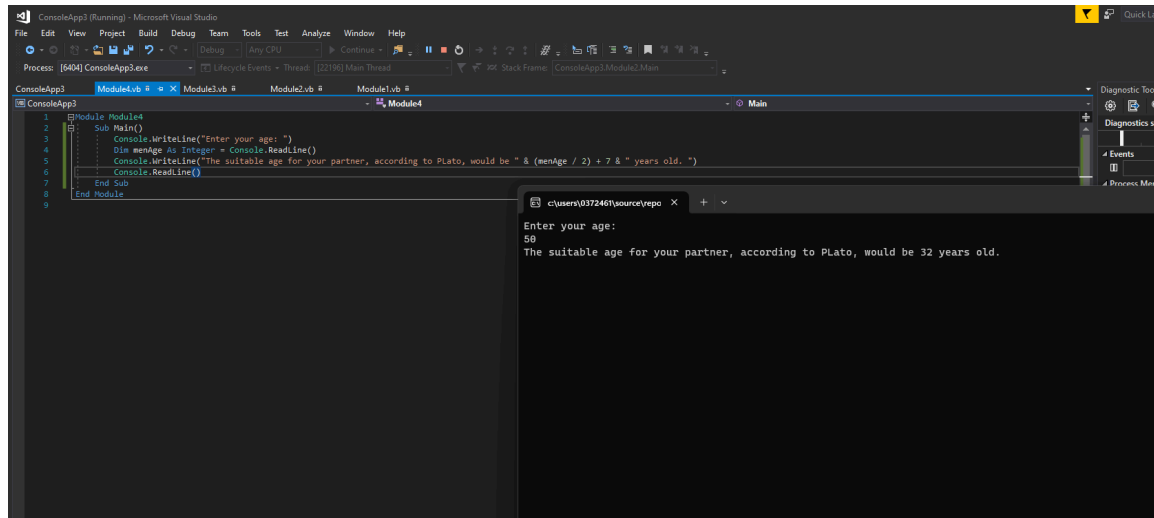
2. Write a program to calculate the hypotenuse of the right triangle. Ask the user to input the 2 sides.



3. Write a program to calculate the volume of a cylinder.



4. According to Plato, a man should marry a woman whose age is half his age plus seven years. Write a program that requests a man's age as input and gives the ideal age of his wife.

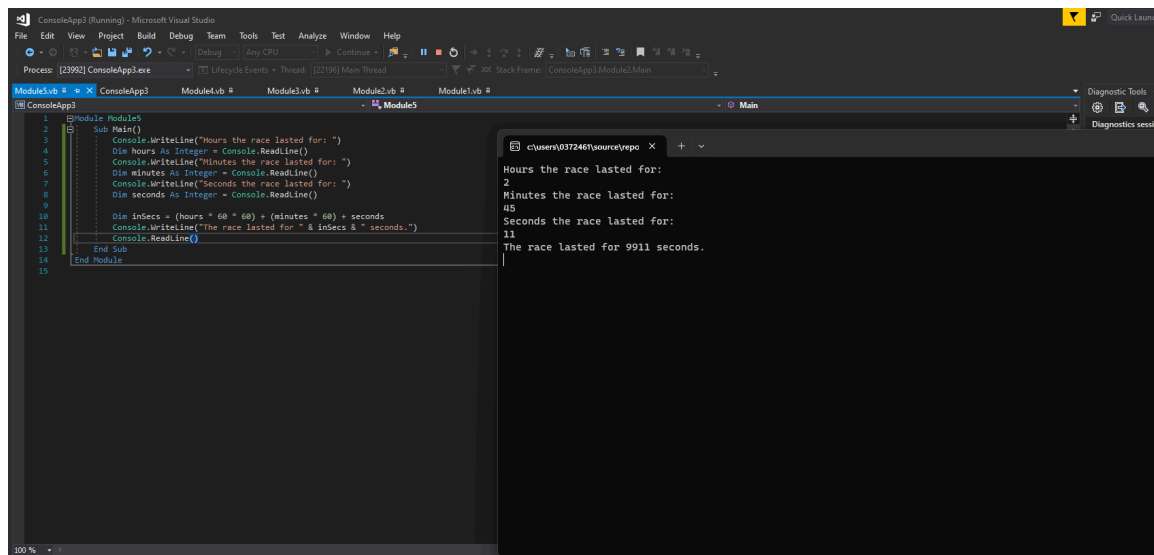


```
1 Sub Main()  
2     Console.WriteLine("Enter your age: ")  
3     Dim manAge As Integer = Console.ReadLine()  
4     Console.WriteLine("The suitable age for your partner, according to Plato, would be " & (manAge / 2) + 7 & " years old.")  
5     Console.ReadLine()  
6 End Sub  
7 End Module
```

Enter your age:
50
The suitable age for your partner, according to Plato, would be 32 years old.

- 5 (a) A marathon runner records their time for a race in hours, minutes and seconds. An algorithm is shown below in structured English.

INPUT race time as hours, minutes and seconds
CALCULATE race time in seconds
STORE race time in seconds
OUTPUT race time in seconds



```
1 Sub Main()  
2     Console.WriteLine("Hours the race lasted for: ")  
3     Dim hours As Integer = Console.ReadLine()  
4     Console.WriteLine("Minutes the race lasted for: ")  
5     Dim minutes As Integer = Console.ReadLine()  
6     Console.WriteLine("Seconds the race lasted for: ")  
7     Dim seconds As Integer = Console.ReadLine()  
8  
9     Dim insecs = (hours * 60 * 60) + (minutes * 60) + seconds  
10    Console.WriteLine("The race lasted for " & insecs & " seconds.")  
11    Console.ReadLine()  
12 End Sub  
13 End Module
```

Hours the race lasted for:
2
Minutes the race lasted for:
45
Seconds the race lasted for:
11
The race lasted for 9911 seconds.

- (b) The identifier table needs to show the variables required to write a program for this algorithm.
Complete the table.

Identifier	Data type	Description
hours	INTEGER	The hours part of the race time.
Minutes	Integer	Minutes of the race time
seconds	Integer	Seconds of the race time
inSecs	Integer	Total time of the race in seconds

6. (a) A program stores data about hospital patients.

Give a suitable identifier name for each of the data items.

- (b) Write a program to display the variables with the given values as follows:

The screenshot shows a PDF document titled '9608_s18_qp_21.pdf' in Adobe Acrobat Pro DC. The document contains a programming question (1) about hospital patients. Part (a) asks for suitable identifier names for four data items. Part (b) (i) provides a table of program variables and their values, and asks to evaluate expressions in a table (which is not fully visible).

1 (a) A program stores data about hospital patients.
Give a suitable **identifier name** for each of the data items.

Description of data item	Suitable identifier name
The temperature of the patient	
The temperature of the room	
The patient identification number	
The name of the nurse taking the measurement	

[4]

(b) (i) Program variables have values as follows:

Variable	Value
MyGreeting	"Happy Birthday"
MyInitial	'C'
AgeInYears	27
Weight	60.5
Married	TRUE
Children	TRUE

Evaluate each expression in the following table.
If an expression is invalid, write ERROR.

