Trent University
COIS1020H
Lab 1 Answer Document

1) Getting familiar with MS Visual C# IDE

Demonstrate to the Lab personnel and Submit the .cs file online

2) Larger Example: Input/Processing/Output

b) Build the solution.

What are the 3 intentional mistakes?

1) There is no using System; which defines the function of Console.WriteLine(); and Console.ReadLine();
2) There is a missing Semicolon in the Console.ReadLine function when asking for lastName of employee.

3) The console in 26th line i.e. when asking for hourly pay rate should have c is upper case.

Run the program with the input provided.

What is the output?

```
Enter employee's first name =>john
Enter employee's last name=>smith
Enter employee's six-digit id Number=>123456
Enter the number of hours employee worked =>22.5
Enter employee's hourly pay rate:14.85
Employee John Smith, (ID: 123456) earned 334.125
```

c) In Line 33, replace and run the program again.

What is the output? What is the difference in the output between this and the previous run?

```
Enter employee's first name =>john
Enter employee's last name=>smith
Enter employee's six-digit id Number=>123456
Enter the number of hours employee worked =>22.5
Enter employee's hourly pay rate:14.85
```

```
Employee John Smith, (ID: 123456) earned $334.125
```

➔The {3} and {3:C} makes the difference of a currency sign before the final gross pay. Adding C gets currency sign.

d) Replace the statement on Lines 33-34. Build the solution.

What is the output? What is the difference in the output between this and the previous run?

```
Enter employee's first name =>john
Enter employee's last name=>smith
Enter employee's six-digit id Number=>123456
Enter the number of hours employee worked =>22.5
Enter employee's hourly pay rate:14.85
Employee JOHN Smith, (ID: 123456) earned 334.1250
```

➔The difference is the number of digits after the decimal point.
We used F4 which means the number of digits after the floating point is 4 and thus 334.1250 instead of 334.125

e) Return Lines 33-34. Add a new line of code into the program to compute `netPay`

Show the new line of code that was added as well as the modified variable declaration and output statement.

```
double payRate, grossPay, netPay, hours;

netPay = grossPay * 0.8;

Console.WriteLine("Employee {0} {1}, (ID: {2}) earned {3:C} and net pay is {4:C)", firstName,
lastName, idNum, grossPay, netPay)
```

What is the output?

```
Enter employee's first name =>john
Enter employee's last name=>smith
Enter employee's six-digit id Number=>123456
Enter the number of hours employee worked =>22.5
```

```
Enter employee's hourly pay rate:14.85
Employee JOHN Smith, (ID: 123456) earned $334.1250 and net pay is $267.3
```

f) Assume that instead of hardcoding the tax rate at 20%, you want the user to input this value.

Show the modified lines of code.

```
double payRate, grossPay, netPay, hours, taxRate;

Console.Write("Enter the tax rate percentage => ");
taxRate = Convert.ToDouble(Console.ReadLine());

netPay = grossPay * ((100 - taxRate) / 100);
```

```
    Console.WriteLine("Employee {0} {1}, (ID: {2}) earned {3:C} and net pay is
{4:C}",firstName, lastName, idNum, grossPay, netPay)
```

What is the output (assuming a tax rate of 25%)?

```
Enter employee's first name =>john
Enter employee's last name=>smith
Enter employee's six-digit id Number=>123456
Enter the number of hours employee worked =>22.5
Enter employee's hourly pay rate:14.85
Enter the tax rate percentage=>25
Employee JOHN Smith, (ID: 123456) earned $334.1250 and net pay is $250.59
```

g) One last task to complete the lab.

Show the modified lines of code.

```
Console.WriteLine(" {0}: {1} => {2:C}, lastName, idNum, netPay);
```

What is the output (assuming the same input as in Part (f)?

```
 Enter employee's first name =>john
 Enter employee's last name=>smith
 Enter employee's six-digit id Number=>123456
 Enter the number of hours employee worked =>22.5
 Enter employee's hourly pay rate:14.85
 Enter the tax rate percentage=>25
Smith: 123456 => $250.59
```

Once you have completed all the questions for Part 2, put the results into a PDF file (use Microsoft Word and Export as a PDF) and then submit the pdf to the Lab 1 Dropbox. When asked “What is the output”, simply type in what is seen in the output window.