Date: Jul 8, 2025 Time limit: 30 minutes

Name: Student Number:

Use correct data types to save information about a student, and print data in the terminal.

Variable	Range	Initialize example
studentID	100,000,000 to 200,000,000	100648765
$\operatorname{studentAge}$	10 to 99	18
studentFee	0.00\$ to 100,000.00\$	78.05
studentGrade	F to A+	A-

Write a C code in a int main() that:

- 1. declares the above variables and initializes them with the given example (2/4 points),
- 2. prints each variable in the terminal in a readable format (2/4 points).

### Important Notes:

- The code must work in any OS with no compile or run issues (1 point deduction for errors).
- An integer value inherently excludes the possibility of fractional parts, making it unsuitable for storage as a floating-point number.
- Make sure to use the correct data types to consider the positivity/negativity of numbers, avoid loss of information and minimize memory waste.

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Each season in National Hockey League the average goals scored per game is reported by dividing the total number of goals scored by the total number of games played in a season. The following table shows these numbers in season 2022-23.

	Season 2022-23	Range
Game Played	2624	0-3500
Goals	8248	0-20000

Write a C code in a int main() that

- 1. declares the above variables and initializes them with the given numbers (1/4 points),
- 2. calculates the average goals per game with two decimals (2/4 points),
- 3. prints each variable in the terminal in a readable format (1/4 points).

#### Important Notes:

- The code must work in any OS with no compile or run issues (1 point deduction for errors).
- An integer value inherently excludes the possibility of fractional parts, making it unsuitable for storage as a floating-point number.
- Make sure to use the correct data types to consider the positivity/negativity of numbers, avoid loss of information and minimize memory waste.

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Write a C code in a <u>int main()</u> to find the average of the following numbers with a **higher** precision (2/4 points).

```
float num1 = 12.5, num2 = 15.75, num3 = 18.25;
```

The program must print the result with 6 decimals in the terminal (1/4 points). In one line, explain how to compile and run the program (1/4 points).

### Important Notes:

- The code must work in any OS with no compile or run issues (1 point deduction for errors).
- Make sure to use the correct data types to avoid loss of information and minimize memory waste.

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Complete the following code:

```
// CODE: Add necessary library(ies) (1/4 points)
int main() {
  char str1[100] = "Hello, ";
  char str2[] = "McMaster!";

// CODE: Add code here to copy str2 to str1 using strcpy (1/4 points)

// CODE: Add code here to print the size of memory taken by str1 (
  including null terminator) (1/4 points)

return 0;
}
```

In one line, explain how to compile and run the program (1/4 points).

### Important Notes:

• The code must work in any OS with no compile or run issues (1 point deduction for errors).