

HTTP 5101 Assignment 1

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Your task is to use ASP.NET WebAPI Controllers to create Application Programming Interfaces (APIs) which implement the described functionality.

In addition, make sure to document each method with a <summary> block, including examples and tests, a description of parameter inputs, and readable variable names.

Question 1

GET `http://localhost/api/AddTen/{id}`

Returns 10 more than the integer input {id}.

Request	Response
GET localhost/AddTen/21	31
GET localhost/AddTen/0	10
GET localhost/AddTen/-9	1

Question 2

GET `http://localhost/api/Square/{id}`

Returns the square of the integer input {id}.

Request	Response
GET localhost/Square/2	4
GET localhost/Square/-2	4
GET localhost/Square/10	100

Question 3

POST http://localhost/api/Greeting

Returns the string "Hello World!"

Request	POST DATA	Response
POST localhost/Greeting		"Hello World!"

Question 4

GET http://localhost/api/Greeting/{id}

Returns the string "Greetings to {id} people!" where id is an integer value.

Request	Response
GET localhost/Greeting/3	Greetings to 3 people!
GET localhost/Greeting/6	Greetings to 6 people!
GET localhost/Greeting/0	Greetings to 0 people!

Question 5

GET http://localhost/api/NumberMachine/{id}

Create a method which has an input {id}, and applies four mathematical operations to it.

Request	Response
GET localhost/NumberMachine/10	?
GET localhost/NumberMachine/-5	?
GET localhost/NumberMachine/30	?

Question 6 : Initiative Question

Note: Initiative questions are more challenging than regular questions. If you cannot solve the entire question, that's okay! Describe your approach to the problem using comments.

GET `http://localhost/api/HostingCost/{id}`

You are charging your client \$5.50 / FN (fortnight = 14 days) for web hosting and maintenance, plus an additional 13% HST. The input {id} represents the number of days which has elapsed since the beginning of the hosting. Output 3 strings which describe the total hosting cost.

Request	Response
GET .../HostingCost/0	"1 fortnights at \$5.50/FN = \$5.50 CAD" "HST 13% = \$0.72 CAD" "Total = \$6.22 CAD"
GET .../HostingCost/14	"2 fortnights at \$5.50/FN = \$11.00 CAD" "HST 13% = \$1.43 CAD" "Total = \$12.43 CAD"
GET .../HostingCost/15	"2 fortnights at \$5.50/FN = \$11.00 CAD" "HST 13% = \$1.43 CAD" "Total = \$12.43 CAD"
GET .../HostingCost/21	"2 fortnights at \$5.50/FN = \$11.00 CAD" "HST 13% = \$1.43 CAD" "Total = \$12.43 CAD"
GET .../HostingCost/28	"3 fortnights at \$5.50/FN = \$16.50 CAD" "HST 13% = \$2.14 CAD" "Total = \$18.64 CAD"

5101 Assignment Rubric

	Level 1 (0-25%)	Level 2 (25-50%)	Level 3 (50-75%)	Level 4 (75-100%)
Git	Work is not successfully submitted on a github repository		Work is successfully submitted on a github repository.	
Quantitative	Multiple (4+) Quantitative issues. The project needs significant improvement to meet professional development standards.	Several (2+) Quantitative issues. There are several areas of improvement needed to meet professional development standards.	One Quantitative issue. A few fixes can bring this to professional quality standards.	Zero Quantitative issues. Work is at a professional level. Work is complete, maintainable, scalable, robust, efficient, extensible, and reusable.
Qualitative	Multiple (4+) Qualitative issues. The project needs significant improvement to meet professional development standards.	Several (2+) Qualitative issues. There are several areas of improvement needed to meet professional development standards.	One Qualitative issue. A few fixes can bring this to professional quality standards.	Zero qualitative issues. Work is at a professional level. Work is concise, readable, well-documented, tested, and includes evidence of debugging.
Semantic	Multiple (4+) Semantic issues. The project needs significant improvement to meet professional development standards.	Several (2+) Semantic issues. There are several areas of improvement needed to meet professional development standards.	One Semantic issue. A few fixes can bring this to professional quality standards.	Zero semantic issues. Work is at a professional level. The work achieved is considered and aligned with the context of the project.
Initiative	The content of the work meets the bare minimum requirements.	The content of the work meets the requirements, and there is an attempt to try something new. Not working code is commented out.	The content of the work exceeds the expectations of the assignment. Not working code is commented out.	The content of the work exceeds the expectations of the assignment, and the code runs adequately.