Computer Program Documentation

You MUST provide evidence showing how the program has been debugged, tested, trialled and feedback used to improve a final, working outcome.

Program Outline

Provide an overview of the program purpose, the intended end users, how the program will function, what the end user can expect e.g. messages to help them enter the correct information, any scores or feedback on their progress and how it ends.

The purpose of the program is to provide a mathematics quiz using addition, subtraction, multiplication, and division to school students between the ages of 12 to 16. It will provide the instructions:

' *** Instructions ****

To begin, choose the number of rounds.

Then, answer the given question with a number.

Round to two decimal places when necessary.

Good Luck! '

if the user inputs yes. The program will then continue. If the user inputs 'no', it will not print the instructions, and the game will continue. It will then ask the user how many rounds they would like to complete between 5 and 15. At any time during the quiz, the user can input 'xxx' to exit. If the user gets the answer correct, the program prints '\subseteq Correct! \subseteq'. If the user gets it incorrect, the program will print '\subseteq Incorrect! \subseteq The correct answer was: {correct_answer}'. Once the user has completed or exited the quiz, they have the option to see their game history. If they choose no, the program prints 'Thanks for playing.' and ends the game. If the user inputs yes, it will show the round number, what the user's input was, and whether or not they were correct. It will then print 'Thanks for playing.'

Debugging

Show evidence (screenshots) of bugs (problems/errors) that prevent the program functioning. Add a brief description of the error and what you did to fix it.

Problem / Error	Fixed code	Description
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Program always output
                                     num1 = random.randint(-12, b: 12)
num2 = random.randint(-12, b: 12)
                                                                         incorrect even if answer was
                                                                         correct.
⇔ ⇔ Round 4 of 5 ⇔ ⇔ ጭ
                                                                         When testing my code, I
12 + -1 = 0.123
                                                                         found that it didn't accept any
Please enter a number
                                                                         numbers with decimal places.
12 + -1 =
                                                                         To fix the issue, I made my
                                                                         integer checker able to take
                                                                         floats.
                                                                         After solving the last issue,
                                                                         my integer checker could no
                                                                        longer accept strings.
                                                                         I had to add another
                                                                        try-except loop to solve the
                                                                        issue.
```

Testing Schedule

Show evidence that you have tested for expected, boundary (e.g. if the boundary is numbers 5 - 10, test for numbers 4, 5, 10 and 11) and invalid input e.g. entering a name, number etc. Add a screenshot of the results.

Test plan for Yes_No function

Data Input	Expected Output (What should happen)	Actual Output (What did happen)
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bob	'Please enter a valid option from the following list: ['yes', 'no']' Repeat question	C:\Python3P\python.exe "M:\ll\isaacrichards\Programming\92884 - Assignment\math_quiz\main.py" $ X + \div - \text{Mathematics Quiz} = \div + X \\ \text{Do you want to see the instructions? Dob} \\ \text{Please enter a valid option from the following list: ['yes', 'no']} \\ \text{Do you want to see the instructions?} \\ \text{Instructions} \\ \text{Polyton want to see the instructions} \\ \text{Polyton} \\ \text$
yes	Print instructions Program Continues	C:(Python3Pipython,exe %:\li\lisacricinards\Programing\92084 - Assignment\math.quiz\main.py' $X++-$ Mathematics $quiz-++X$ To you mant to see the instructions? yes *** Instructions **** To begin, choose the number of rounds. Then, answer the given question with a number.
no	Program Continues	C:\Python39\python.exe *M:\ll\isaacrichards\Programming\92004 - Assignment\math_quiz\main.py* $ X+\div - \text{Mathematics Quiz} = \div + X $ Oo you want to see the instructions? no How many rounds (between S and 15) would you like:
у	Print instructions Program Continues	C:(Python3P\python.exe "%:\l\lsacrichards\Programing\P2004 - Assignment\math.quiz\main.py" X++ — Mathematics Quiz — ++ X Do you mant to see the instructions? y *** Instructions **** To begin, choose the number of rounds. Then, answer the given question with a number.

Test plan for int_check function, error code 1

Data Input	Expected Output(What should happen)	Actual Output (What did happen)
4	'Please enter a number between 5 and 15' Repeat question	C:\Python3P\python.exe "W:\!I\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
16	'Please enter a number between 5 and 15' Repeat question	C:\Python39\python.exe "#:\11\isaacrichards\Programming\02804 - Assignment\wath_quiz\main.py" $X++- \text{ Mathematics Quiz } -++X$ Do you want to see the instructions? n Mow many rounds (between 5 and 15) would you like: 16 Please enter a number between 5 and 15 Mow many rounds (between 5 and 15) would you like:
xyz	'Please enter a number between 5 and 15' Repeat question	C:\Python3P\python.exe "W:\II\Isaacrichards\Programming\P2004 - Assignment\math_quiz\main.pp" X++
5	Program continues	C:\Python3Pipython.exe "W:\Il\seacricmards\ProgramLing\V2004 - Assignment\nath_quiz\basin.py" $ X + + \text{ Mathematics } Quiz - + + X \\ \text{Do you main touch the first netting? } n \\ \text{Row many touchs (between 5 and 45) would you like: } 3 \\ \textbf{OOO} & \text{Round 1 of 5 } \textbf{OOO} \\ \text{1010 - } \\ \textbf{1010 - } \\ 10$
15	Program continues	C:\Python3P\python.exe "#:\li\isaacrichards\Programming\P2004 - Assignment\math.quiz\main.py" $ X + + \text{ Mathematics Quiz} - + + X $ do you many tous see the instructions? n few many tousds (between 5 at 5) would you like: IS

Test plan for int_check function, error_type 0

Data Input	Expected Output (What should happen)	Actual Output (What did happen)
-100	Program continues	♣ ♣ ♠ Round 1 of 5 ♣ ♣ ♠-3 * -7 = -100X Incorrect! X The correct answer was: 21
100	Program continues	♣ ♣ ♠ Round 2 of 5 ♣ ♠ ♣-10 - 9 = 100X Incorrect! X The correct answer was: -19
0	Program continues	ុំជ្ជៈ Round 3 of 5 ជ្ជៈជ្ជៈ -8 / -7 = 0 ★ Incorrect! ★ The correct answer was: 1.14
0.123	Program continues	♣ ♣ ♠ Round 4 of 5 ♣ ♠ ♠ 1 + -6 = 0.123 X Incorrect! X The correct answer was: -5
abc	'Please enter a number' Ask question again	<pre>\$ \$ \$ Round 5 of 5 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$</pre>

Program Testing

Show evidence your final working program has been fully tested for expected, **boundary** and **invalid** input. This can either be as screenshots or a short Screencastify video

Stage of quiz	Input	Expected output	Actual output
Instructions	у	Program prints instructions	Cityransifighton on "millianerichendibropondoglittis - kalpmettiam, politain py" X++- futhertics qui -++; Di you want to see the instructions ; es lautrections ene To bajls, tieses the maker of reads.
	Yes	Program prints instructions	Cityropodigithm in "citiisaecichemistrynemigicos - anipaetiem,quichun py" X++- Antendis qui = ++X No you ant to ser the introductor? For ** Dutoutins *** To begin, chans the mater of rounds.
	n	Program continues without printing instructions	C-VyroneStypton.com "A:Lillianerilates) (ropemolytebs - emigenetiment, quiriment py" X + 8 - minomitia Quir - + 8 + X In you want to see the instructions' o was many rounds (between 5 and 510 resid yet Libr:

	no	Program continues without printing instructions	Ci)-fitself-fighten, on: "R:III] is an extension of Fragmentia [1506 - Analyse et Land, and fails, approximately $X+1$ - That exerting $Ax = 2+X$. In you want to see the instructions on easily record (between 5 and 15) would you than:
	yed	Program asks user to enter an option from [yes, no]	Clymnosingston.or *Killinnerishendologyammigicida - Annipantinto, paliman.gv* X+4— minimatin (bir -++X Mr you man't to see the intractions' pir Flasse entre a wild optio from the following list: ['yes', 'me'] Mr you man't to see the intractions' [
	123	Program asks user to enter an option from [yes, no]	Communitation on "Authorized Proposition - Indigential Authorized X++- managing for -++X As you set to us to beneating us From other while other from the collecting limit (Fee , Fee) As you set to us the instruction)
	#\$%*^#\$	Program asks user to enter an option from [yes, no]	C-Procedingtons are "Collissoriate only represented (NOMS - Assignment and politicals, pt" X++- Recomments of the -++X is you want to see the instructional officers These enter a while synthe from the following list: [yest, 'ne'] the you want to see the instructional
Round selection	4	Program asks user to enter a number between 5 and 15	CONTENSINATION OF TAILSTANCEMENTAL PROPERTIES - RESPONSING ACTIONS OF TAILSTANCE OF TAILSTANCE OF THE SECOND OF TAILSTANCE OF THE SECOND OF TAILSTANCE OF TA
	16	Program asks user to enter a number between 5 and 15	Citylinos/Typiton are "Allilians' interolly-gramming those - featgrant and, quineth $\chi \gamma^*$ $x+x-$ mathematics $\chi (x)=x+x$ By you ment to see the destructions' x was many recons (between 5 and 10 model you like: 15 Place enter or recons (between 5 and 15 model you like: 15 Place many recons (between 5 and 15 model you like: 1)
	5	Program continues	Elymphortipites on "Filtrianicistary) representations and proceedings of " *++- methodis (di -++* De proceed in our de internition" * We want to use the internition * We wa
	15	Program continues	Contradigation on "Cultivancianes/Septembergianis Hispanities, activate pri ***- Memoratis qui ***** In pre met is see the inductions " Ne see room (internet See 11) and yes like: 11 ***- *** **- *** ***- *** ***- *** ***- *** ***- *** ***- *** ***- ** ***- *** ***- *** ***- *** ***- *** ***- *** ***- *** **- *** ***- *** ***- *** ***- *** ***- *** ***- *** ***- ** ***- ** ***- ** ***- ** **-
	5.5	Program asks user to enter a number between 5 and 15	U-probably pitter, see "A Ullissee Colored Proposed (SIDE - Analyses Control por ' x ++ - Retreating Siz -+ + X) Do note to see the see Analyses of the Size Colored Size Size Size Colored Size Size Size Size Size Size Size Size
	abc	Program asks user to enter a number between 5 and 15	Copusitivities of *Littlementerologomorphis - inspectant, solving pr X++ = interests (str -++X Dr mart to ore solving to the nor man copion and to that shall no from our man copion and the strength of the nor man copion and to that the size from our reasons and to strength or the strength content to 10 mil 10
	no input	Program asks user to enter a number between 5 and 15	Chyprodryprion are $\mathcal{H}_{\mathrm{CLI}}$ interpretable presentable a follower some derivate g_{CLI} $X+\theta=0$ moderation g_{CLI} $x+\theta=0$. So we see to see the dispertition t is an easy moder, deeper S and S will see that g_{CLI} $x=\theta=0$ and g_{CLI} $x=\theta=0$ and g_{CLI} $x=\theta=0$ and g_{CLI}
	#\$%*^#\$	Program asks user to enter a number between 5 and 15	Clyptochlypton, ex *Clibinacticles/Propendig(PDSs - Anigmentiach_oblinack.pr X++- minmentia (obl -++X be you and to see the instruction) o

Game Loop	9999999999999999	Either correct / incorrect, program continues	ቁቁቁ Round 1 of ዕ ቁቁቁ 54 = <i>999999999999999</i> ★ Incorrect! ★ The correct answer was: 9
	-999999999999999	Either correct / incorrect, program continues	♦ ♦ ♦ Round 2 of 6 ♦ ♦ ♦ 9 / 10 = -999999999999999999 X Incorrect! X The correct answer was: 0.9
	0	Either correct / incorrect, program continues	章章章 Round 3 of 6 章章章 3 - 1 = 0 ★ Incorrect! ★ The correct answer was: 2
	0.1	Either correct / incorrect, program continues	** • 4 = 0.1 X Incorrect! X The correct answer was: -4
	-0.1	Either correct / incorrect, program continues	 ♣ ♣ Round 5 of 6 ♠ ♠ -3 / 12 = -0.1 X Incorrect! X The correct answer was: -0.25
	abc	Asks user to input a number	<pre>♣ ♠ Round 6 of 6 ♠ ♠ ♠ 3 / 3 = abc Please enter a number 3 / 3 =</pre>
	#\$%*^#\$	Asks user to input a number	*** Round 1 of 5 *** 10 / -7 = #\$%*^#\$ Please enter a number 10 / -7 =
Game History	у	Program prints game history, prints thanks for playing	Do you want to see your game history? y Round: 1 - You put: 1, X Incorrect! X Round: 2 - You put: 1, X Incorrect! X Round: 2 - You put: 1, X Incorrect! X Round: 4 - You put: 0.1, X Incorrect! X Round: 5 - You put: 0.1, X Incorrect! X Round: 5 - You put: 0.1, X Incorrect! X Round: 6 - You put: 5, X Incorrect! X Thanks for playing. Process finished with exit code 0
	Yes	Program prints game history, prints thanks for playing	Do you want to see your game history? Yes Round: 1 - You put: 1, X Incorrect! X Round: 2 - You put: 1, X Incorrect! X Round: 3 - You put: 1, X Incorrect! X Round: 4 - You put: 1, X Incorrect! X Round: 5 - You put: 1, X Incorrect! X Thanks for playing. Process finished with exit code 0
	n	Program prints thanks for playing	Do you want to see your game history? n Thanks for playing. Process finished with exit code 0
	no	Program prints thanks for playing	Do you want to see your game history? no Thanks for playing. Process finished with exit code 0

yed	Program asks user to enter from list : [yes, no]	On you want to see your game history? yed Please enter a valid option from the following list: ['yes', 'no'] Do you want to see your game history?
123	Program asks user to enter from list : [yes, no]	On you want to see your game history? 123 Please enter a valid option from the following list: ['yes', 'no'] Do you want to see your game history?
#\$%*^#\$	Program asks user to enter from list : [yes, no]	Do you want to see your game history? #\$**#\$ Please enter a valid option from the following list: ['yes', 'no'] Do you want to see your game history?

Usability/End User Testing

Write a list of improvements which need to be made based on end user feedback. Add information about what you changed to meet the end user feedback. - This is not assessed, but is good practice.

Post Usability Testing

Show that your program works correctly after making the improvements. This can be screenshots or a short Screencastify video