

Introduction to Programming

Introduction to Programming provides members with the opportunity to code a program based on a specific topic. This competitive event consists of a presentation component where the program is demonstrated for the judges.

Event Overview

Division: High School (9th and 10th grades only) Event Type: Event Type: Team of 1, 2 or 3 members Event Category: Presentation Event Elements: Presentation with a Topic *Presentation Time:* 3-minute set-up, 7-minute presentation time, 3-minute question & answer time

<u>NACE Connections</u>: Career & Self-Development, Communication, Critical Thinking, Leadership, Professionalism, Teamwork, Technology

Equipment Provided by Competitors: Technology and presentation items for preliminary and final round presentation

Equipment Provided by FBLA: Internet access and table for preliminary round presentation; Internet access, table, power, projector & screen for final round presentation

2023-2024 Topic

Create a program that allows students at your school to calculate their grade point average. Use your school's grading scale to calculate both weighted and unweighted grade point averages.

District/Region/Section

Check with your District/Region/Section leadership for District/Region/Section-specific competition information.

State

Check with your State Leader for state-specific competition information.

National

Policy and Procedures Manual

• Competitors should be familiar with the Competitive Events Policy & Procedures Manual, found on the Competitive Events page on <u>www.fbla.org</u>.

Eligibility

- FBLA membership dues are paid by 11:59 pm Eastern Time on March 1 of the current school year.
- Members may compete in an event at NLC more than once if they have not previously placed in the top ten of that event at NLC. If a member places in the top ten of an event at NLC, they are no longer eligible to compete in that event.
- Members must be registered for the NLC and pay the national conference registration fee in order to participate in competitive events.
- Members must stay in an official FBLA hotel in order to compete.
- Each state may submit four entries.





- Each competitor can only compete in one individual/team event and one chapter event (American Enterprise Project, Community Service Project, Local Chapter Annual Business Report, Partnership with Business Project).
- Only competitors are allowed to plan, research, prepare, and set up their presentations.
- Each competitor must compete in all parts of an event for award eligibility.
- All members of a team must consist of individuals from the same chapter.
- Picture identification (driver's license, passport, state-issued identification, or school-issued identification) is required when checking in for competitive events.
- If competitors are late for a presentation time, they will be allowed to compete until such time that results are finalized, or the accommodation would impact the fairness and integrity of the event. Competitive events start in the morning before the Opening Session of NLC.

Recognition

• The number of competitors will determine the number of winners. The maximum number of winners for each competitive event is 10.

Event Administration

- This event has two parts: preliminary presentation and final presentation
- Preliminary Presentation Information
 - Equipment Set-up Time: 3 minutes
 - Presentation Time: 7 minutes (one-minute warning)
 - **Question & Answer Time:** 3 minutes
 - Internet Access: Provided (Internet access may not be Wi-Fi, so competitors should plan appropriately when selecting devices on which to present. Please note that internet reliability at any conference venue cannot be guaranteed. Always have a backup plan in case internet connections go down.)
 - Competitors/teams are randomly assigned to sections.
 - The presentation is judged at the NLC. Preliminary presentations are not open to conference attendees. The presentation will take place in a large, open area, with a booth size of approximately 12' x 12'.
 - Competitors present directly from a laptop/device. Screens and projectors are not allowed for use, and competitors are not allowed to bring their own. Power will not be available.
 - Competitors can present with and bring any of the following technology into the presentation as long as it fits on the small table in front of the judges' table or is held by the competitors:
 - Laptop
 - Tablet
 - Mobile phone
 - External monitor that is approximately the size of a laptop monitor
 - Visual aids and samples related to the project may be used during the presentation; however, no items may be left with the judges or audience.
 - When the equipment set-up time has elapsed, the timer will automatically start the presentation time.

Introduction to Programming



- If performing as a team, all team members are expected to actively participate in the presentation.
- No animals (except authorized service animals) will be allowed for use in any competitive event.
- Presentation should cover the following aspects of the program:
 - The development, usability and functionality of the program must be demonstrated and explained to the judges.
 - Solution must run standalone with no programming errors.
 - Data must be free of viruses/malware.
 - Competitors must show the judges any of the following that are applicable: readme file, source code, documentation of templates/libraries used, documentation of copyrighted material used.
 - The presentation should follow the rating sheet and include the following:
 - Code Quality: What are the specifics of and the big picture of the code?
 - User Experience: What focus is on the ease-of-use and accessibility of the interface?
 - Functionality: Speak to all aspects of the topic
- Final Presentation Information
 - Equipment Set-up Time: 3 minutes
 - Presentation Time: 7 minutes (one-minute warning)
 - Question & Answer Time: 3 minutes
 - Internet Access: Provided (Internet access may not be Wi-Fi, so competitors should plan appropriately when selecting devices on which to present. Please note that internet reliability at any conference venue cannot be guaranteed. Always have a backup plan in case internet connections go down.)
 - An equal number of competitors/teams from each section in the preliminary round will advance to the final round. When there are more than five sections of preliminary presentations for an event, two competitors/teams from each section will advance to the final round.
 - Final presentations may be open to conference attendees, space permitting. Finalists may not view other competitors' presentation in their event.
 - Competitors can present with and bring any of the following technology into the presentation as long as it fits on the small table in front of the judges' table or is held by the competitors:
 - Laptop
 - Tablet
 - Mobile phone
 - External monitor that is approximately the size of a laptop monitor
 - The following will be provided for the final round if it occurs in a conference room: screen, power, table, and projector. Competitors using laptops or other devices that do not have an HDMI port will need to provide their own adapters. It is up to final-round competitors to determine if they wish to use the technology provided.
 - Visual aids and samples related to the project may be used during the presentation; however, no items may be left with the judges or audience.



Introduction to Programming

- When the equipment set-up time has elapsed, the timer will automatically start the presentation time.
- If performing as a team, all team members are expected to actively participate in the presentation.
- No animals (except authorized service animals) will be allowed for use in any competitive event.
- Presentation should cover the following aspects of the program:
 - The development, usability and functionality of the program must be demonstrated and explained to the judges.
 - Solution must run standalone with no programming errors.
 - Data must be free of viruses/malware.
 - Competitors must show the judges any of the following that are applicable: readme file, source code, documentation of templates/libraries used, documentation of copyrighted material used.
 - The presentation should follow the rating sheet and include the following:
 - Code Quality: What are the specifics of and the big picture of the code?
 - User Experience: What focus is on the ease-of-use and accessibility of the interface?
 - Functionality: Speak to all aspects of the topic

Scoring

- The preliminary presentation score will determine the finalists.
- The final presentation score will determine the winners.
- Judges must break ties. All judges' decisions are final.

Americans with Disabilities Act (ADA)

• FBLA meets the criteria specified in the Americans with Disabilities Act for all competitors with accommodations submitted through the conference registration system by the registration deadline.

Recording of Presentations

- No unauthorized audio or video recording devices will be allowed in any competitive event.
- Competitors in the events should be aware FBLA reserves the right to record any presentation for use in study or training materials.

Penalty Points

- Competitors may be disqualified if they violate the Competitive Event Guidelines or the Honor Code.
- Five points are deducted if competitors do not follow the Dress Code or are late for their assigned presentation time.

Introduction to Programming



User interface is intuitive or clear instructions are providedNo instructions provided and is not intuitiveInstructions provided or program is not intuitiveAppropriate & clear instructions are providedProgram is intuitive and clear instructions are providedUsers can easily navigate between pagesNo help menu or navigation system incorporatedIncludes basic help menu and usable navigationInterface contains no spelling errors, has interactive help menu, and has no navigation errorsProgram use also includes an intelligent feature such as an interactive O&AUser input is validatedUser input isn't validatedUser input is somewhat validatedUser input is somewhat validatedUser input is validatedUser input is validated0 points1-2 points3-4 pointsSpoints	ntroduction to Progr	ntroduction to Programming Presentation Rating Sheet									
Appropriate use of comments, naming commentary provided is is not proper formatting No commentary provided is is not logical and complete is provided in the provided is is not logical and complete in the provided is is not logical and complete in the provided is is not logical and complete in the provided is is not logical and complete in the provided is not logical and logical and logical and logical and logical	Expectation Item	Not Demonstrated		Meets Expectations							
Appropriate Use of commentary provided No commentary provided but is not lagical easists the user throughout the demonstration Commentary provided but is not lagical easists the user throughout the demonstration Commentary provided but is not lagical Appropriate use of classes, modules, end/or components 0 points 1-6 points 7-8 points 9-10 points User Experience 0 points 1-6 points 7-8 points 9-10 points User instructions are provided 0 points 1-6 points 7-8 points 9-10 points User instructions are provided No instructions provided or is not intuitive Instructions program is not intuitive Appropriate & clear instructions are provided or program is not intuitive Program use also interactive field multive and usable Program use also interactive field multive and usable User input is validated 0 points 1-6 points 7-8 points Program use also interactive field multive and usable User input is validated 0 points 1-6 points 7-8 points Program use also interactive field multive and usable User input is validated 0 points 1-6 points 7-8 points Program use also interactive field multive and usable User input is validated 0 points <td>Code Quality</td> <td>1</td> <td>ſ</td> <td>Γ</td> <td>1</td> <td></td>	Code Quality	1	ſ	Γ	1						
Appropriate use of classes, modules, and/or components Identifiers not used Identifiers ore used for programming elements but are incorrectly placed Identifiers ore used and are accurate in all instances Identifiers exhibit on advanced knowledge of programming User Experience 0 points 1-6 points 7-8 points 9-10 points User Interface Is Intuitive or clear instructions are provided No instructions incluive Instructions program is not incluive Appropriate & clear instructions are provided or program is not incluive Program is intuitive or provided Program is intuitive or provided Program is intuitive or provided or provided or provided or provided or provided or provided Program is intuitive or provided Program is intuitive or provided User s can easily navigate between pages No help menu or novigation system incorporated Includes basic help menu or usable navigation Interface contains no speling errors. Nos interactive as an interactive Q&A Program use also interactive Q&A User input is validated User input is somewhat validated User input is somewhat validated Input validation applied on both syntactical and semontic levels Program addresses all parts of the prompt Program does not address the topic/problem Program fully addresses the topic/problem Output reports are or faccurate or analyze data Output reports are or for eacnor to ro analyze data <td< td=""><td>comments, naming conventions, and proper</td><td>,</td><td>provided but is not</td><td>assists the user throughout the</td><td>logical, useful, and</td><td></td></td<>	comments, naming conventions, and proper	,	provided but is not	assists the user throughout the	logical, useful, and						
Appropriate use of classes, modulis, and/or components identifiers not used identifiers not used identifiers are used and are accurates init incorrectly placed identifiers are used and are accurates init instances identifiers are used and are accurates init instances User Experience 0 points 1-6 points 7-8 points 9-10 points User interface is intuitive or clear instructions are provided on or intuitive No instructions intuitive Instructions provided or intuitive Appropriate & clear instructions are provided Program is intuitive and as no novigation incorporated User s can easily navigate between pages No help menu or novigation system incorporated Includes tasic help menu and usable navigation Includes tasic help menu and usable navigation Program tuse also interactive help menu, and has no novigation Program tuse also interactive help menu, and has no novigation Program tuse also interactive belp menu, and has no novigation User input is validated User input is validated User input is somewhat validated User input is onewhat validated Imput validation applied on both syntheticinal and instructional error free and provide addresses all on both syntheticinal instructional Program addresses all parts of the prompt Program das not accurate or an advised at a minimal level Program fully addresses the topic/problem Program fully addresses the topic/problem Output reports are onot accurate or an analyze data <td< td=""><td></td><td>0 points</td><td>1-6 points</td><td>7-8 points</td><td>9-10 points</td><td></td></td<>		0 points	1-6 points	7-8 points	9-10 points						
User Experience User interface is intuitive or clear instructions are provided No instructions intuitive Instructions provided or instructions are provided Program is intuitive and clear instructions are provided User interface is intuitive or clear instructions are provided 0 points 1-6 points Appropriate & clear instructions are provided Program is intuitive and clear instructions are provided Users can easily navigate between pages No help menu or navigation system incorporated 1-6 points 7-8 points 9-10 points User input is validated No help menu or navigation system incorporated Includes basic help menu and usable novigation Interface contains no spelling errors. has interactive help menu, and has no navigation errors Program use also interactive 0.8A User input is validated User input is validated User input is somewhat validated User input is validated Input validation applied on both syntactical and semantic levels Functionality Program does nat oddress the topic/problem Program addresses the topic/problem at minimal level Program fully addresses the topic/problem Program fully addresses the topic/problem Output reports are not accurate or not available Output reports are not accurate or not available Output reports are not sufficient to analyze data Output reports allow user to customize and analyze information	classes, modules, and/or	ldentifiers not used	for programming elements but are	and are accurate in all	advanced knowledge of						
User interface is intuitive or clear instructions are providedNo instructions provided or is not intuitiveInstructions provided or program is not instructions are providedProgram is intuitive and clear instructions are providedUser instructions are provided0 points1-6 points7-8 points9-10 pointsUsers can easily navigate between pagesNo help menu or navigation system incorporatedIncludes basic help menu and usable navigationIncludes basic help menu and usable novigationProgram use also interface contains no spelling errors, has interactive help menu, and has no navigationProgram use also includes an intelligent facture such as an interactive O&AUser input is validated0 points1-6 points7-8 pointsProgram use also interactive O&AUser input is validatedUser input is validatedUser input is somewhat validatedUser input is validatedInput validation applied on both syntactical and semantic levelsFunctionalityProgram does not address the topic/problemProgram addresses the topic/problem on sulficent to addressesProgram fully addresses the topic/problemProgram fully addresses the topic/problemProgram generates a presentable reportO points1-8 points9-12 points0.4 pointsO points1-8 points9-12 points13-15 pointsO points1-8 points9-12 points0.4 points0.4 pointsO points1-8 points9-12 points0.4 points0.4 pointsO points1-8 poin		0 points	1-6 points	7-8 points	9-10 points						
User Interface is intuitive or clear instructions intuitiveNo instructions provided and is not intuitiveprovided and is not program is not intuitiveAppropriate a Calcar investioneProgram is intuitive and clear instructions are providedUser clear instructions provided0 points1-6 points7-8 points9-10 pointsUsers can easily navigate between pagesNo help menu or navigation system incorporatedIncludes basic help menu and usable navigationInterface contains no spelling errors, has interface contains no spelling errors, has interface contains no spelling errors, has interface the help menu and has no navigation errorsProgram use also includes an intelligent feature such as an interactive OBAUser input is user input is validatedUser input is user input is 't validatedUser input is somewhat validatedInput validation applied on both syntactical and semantic levelsFunctionalityO points1-2 points3-4 points5 pointsProgram addresses the topic/problem0 points1-2 points3-4 points0 topic/problemProgram addresses the topic/problemO points1-8 points9-12 points0 uput reports are and social levelProgram generates a presentable reportOutput reports are not accurate or not availableOutput reports are and/yze dataOutput reports are and/yze dataProgram generates a presentable reportOutput terports are not available0-12 points3-4 points0 topic/problemData storage is persistent	User Experience										
Users can easily navigate between pagesNo help menu or navigation system incorporatedIncludes basic help menu and usable mavigationInterface contains no spelling errors, has interactive help menu, and has no navigation errorsProgram use also includes an intelligent feature such as an interactive O&AUser input is validated0 points1-6 points7-8 points9-10 pointsUser input is validatedUser input is' validatedUser input is somewhat validatedInput validation applied on both syntactical and semantic levelsFunctionality0 points1-2 points3-4 points5 pointsProgram addresses all parts of the promptProgram does not topic/problemProgram addresses the topic/problem at a minimal levelProgram fully address are pointsProgram fully addresses the topic/problemProgram generates a presentable reportOutput reports are availableOutput reports are and sufficient to analyze dataOutput reports are and sufficient to analyze dataOutput reports are analyze dataData storage is persistentWhere data is stored is unclearWhere data is stored may not be secureData storage is clear, and storage is secureData storage is clear, and storage is secureData storage is clear, and storage is secure	or clear instructions are	provided and is not	provided or program is not	instructions are	clear instructions are						
Users can easily navigate between pagesNo help menu or navigation system incorporatedIncludes basic help menu and usable navigationspellingerrors, has interactive help menu, and has no navigation errorsProgram use olso interactive Q&AUser input is validated0 points1-6 points7-8 points9-10 pointsUser input is validatedUser input is validatedUser input is validatedUser input is validatedInput validation applied on both syntactical and semantic levelsFunctionality0 points1-2 points3-4 points5 pointsFunctionalityProgram does not address the topic/problemProgram addresses the topic/problemProgram fully addresses the topic/problemProgram fully addresses the topic/problemProgram generates a presentable reportOutput reports are output terports are output terports are output dataOutput reports are not sufficient to analyze dataOutput reports allow user to customize and adata is stored is unclearData storage is persistentWhere data is stored is unclearWhere data is stored may not be secureData storage is clear, and storage is secureData storage is clear, and storage is secure		0 points	1-6 points	7-8 points	9-10 points						
User Input is validated User input isn't validated User input is somewhat validated User input is user input is validated Input validation applied on both syntactical and semantic levels Functionality 0 points 1-2 points 3-4 points 5 points Program addresses all parts of the prompt Program does not address the topic/problem Program addresses the topic/problem at a minimal level Program fully addresses the topic/problem Program fully addresses the topic/problem Program fully addresses the topic/problem 0 points 1-8 points 9-12 points 13-15 points 0 utput reports are not accurate or not available Output reports are not accurate or not available Dutput reports are not accurate or not available <t< td=""><td rowspan="2"></td><td>navigation system</td><td>menu and usable</td><td>spelling errors, has interactive help menu, and has no navigation</td><td>includes an intelligent feature such as an</td><td></td></t<>		navigation system	menu and usable	spelling errors, has interactive help menu, and has no navigation	includes an intelligent feature such as an						
User input is validatedUser input is validatedUser input is somewhat validatedUser input is validatedon both syntactical and semantic levelsUser input is validated0 points1-2 points3-4 points5 pointsFunctionalityProgram does not address the topic/problemProgram addresses the topic/problemProgram addresses the topic/problemProgram fully addresses the topic/problemProgram fully addresses the topic/problemProgram generates a presentable report0 uput reports are not accurate or not availableOutput reports are not sufficient to analyze dataOutput reports are on to sufficient to analyze dataOutput reports are on to sufficient to analyze dataOutput reports are on to accurate or not analyze dataData storage is persistentWhere data is stored is unclearWhere data is stored may not be secureData storage is clear, and storage is secureData storage includes dynamic backup feature		0 points	1-6 points	7-8 points	9-10 points						
Functionality Program does not address the topic/problem Program addresses the topic/problem at a minimal level Program fully addresses the topic/problem at a minimal level Program fully addresses the topic/problem and the correlation is explained in the instructions Program generates a presentable report Output reports are not accurate or not available Output reports are not available Output reports are not accurate or not available Output source and to the construction is explained in the instructions Data storage is persistent Where data is stored is unclear Data storage is clear, and storage is secure Data storage is secure	User input is validated			User input is validated	on both syntactical and						
Program addresses all parts of the promptProgram does not address the topic/problemProgram addresses the topic/problemProgram fully addresses the topic/problemProgram fully addresses the topic/problem0 points1-8 points9-12 points13-15 points0 points1-8 points9-12 points13-15 points0 points1-8 points0 utput reports are not accurate or not availableOutput reports are not sufficient to analyze dataOutput reports are not sufficient to analyze dataOutput reports are ont sufficient to analyze dataOutput reports are error free and provide all necessary information to analyze dataOutput reports allow user to customize and analyze informationData storage is persistentWhere data is stored is unclearWhere data is stored may not be secureData storage is clear, and storage is secureData storage includes dynamic backup feature		0 points	1-2 points	3-4 points	5 points						
Program addresses all parts of the promptProgram does not address the topic/problemProgram addresses the topic/problemProgram fully addresses the topic/problemthe topic/problem, and the correlation is explained in the instructionsProgram generates a presentable reportOutput reports are not accurate or not availableOutput reports are not sufficient to analyze dataOutput reports are not sufficient to analyze dataOutput reports are error free and provide all necessary information to analyze dataOutput reports allow user to customize and analyze informationData storage is persistentWhere data is stored is unclearWhere data is stored may not be secureData storage is clear, and storage is secureData storage is secure	Functionality										
Program generates a presentable reportOutput reports are not accurate or not availableOutput reports are not sufficient to analyze dataOutput reports are error free and provide all necessary information to analyze dataOutput reports allow user to customize and analyze information0 points1-2 points3-4 points5 pointsData storage is persistentWhere data is stored is unclearWhere data is stored may not be secureData storage is clear, and storage is secureData storage includes dynamic backup feature	Program addresses all parts of the prompt	address the	the topic/problem	addresses the	the topic/problem, and the correlation is explained in the						
Program generates a presentable reportOutput reports are not accurate or not availableOutput reports are not sufficient to analyze dataerror free and provide all necessary 		0 points	1-8 points	9-12 points	13-15 points						
Data storage is persistentWhere data is stored is unclearWhere data is stored may not be secureData storage is clear, and storage is secureData storage includes dynamic backup feature		not accurate or not	not sufficient to	error free and provide all necessary information to analyze	user to customize and						
Data storage is persistent Where data is stored is stored is unclear stored may not be secure Data storage is clear, and storage is secure Data storage is clear, and storage is secure Data storage is clear, and storage is secure		0 points	1-2 points	3-4 points	5 points						
0 points 1-2 points 3-4 points 5 points	Data storage is persistent		stored may not be								
		0 points	1-2 points	3-4 points	5 points						



Introduction to Programming

Expectation Item	Not Demonstrated	Below Expectations	Meets Expectations	Exceeds Expectations	Points Earned
Presentation Delivery					
Statements are well- organized and clearly stated	Competitor(s) did not appear prepared	Competitor(s) were prepared, but flow was not logical	Presentation flowed in logical sequence	Presentation flowed in a logical sequence; statements were well organized	
	0 points	1-6 points	7-8 points	9-10 points	
Demonstrates self- confidence, poise, assertiveness, and good voice projection	Competitor(s) did not demonstrate self- confidence	Competitor(s) demonstrated self- confidence and poise	Competitor(s) demonstrated self- confidence, poise, and good voice projection	Competitor(s) demonstrated self- confidence, poise, good voice projection, and assertiveness	
	0 points	1-6 points	7-8 points	9-10 points	
Demonstrates the ability to effectively answer questions	Unable to answer questions	Does not completely answer questions	Completely answers questions	Interacted with the judges in the process of completely answering questions	
	0 points	1-6 points	7-8 points	9-10 points	
	Staff Only: Penalty Po	pints (5 points for dress	code penalty and/or 5 poi	nts for late arrival penalty)	
			Prese	ntation Total (100 points)	
Name(s):					
School:					
Judge Signature:					Date:

Judge Signature: Comments: