<u>Visual Basic for Applications for Office</u>
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What is Visual Basic for Applications?
- Office Visual Basic for Applications (VBA) is a programming language that allows the user to write scripts that extend, customize, and expand several features of Microsoft Office applications by writing various coding scripts.
- The Office programs that utilize VBA are the following:
    - Access
    - Excel
    - Office for Mac
        - This includes Excel, PowerPoint, and Word
    - Outlook
    - PowerPoint
    - Project
    - Publisher
    - Visio
    - Word
- VBA is an event-driven programming language, meaning that the executions within the program are determined by events, such as:
    - User Actions
        - Mouse Clicks
        - Key Presses
    - Sensor outputs
    - Message Passing from other programs or threads
- VBA primarily focuses on User Actions
- An example of an event that VBA could handle would be in Excel when the user opens a new workbook. The action of the workbook opening is the event. If the user had specified code corresponding to this event, that code would be instantly executed.
- Let's say the user wants to have their name as a prefix for every Excel sheet that they create. All the user has to do is write the code to add their name to the filename inside of the correct event subroutine, and Excel will automatically execute the code upon creation of an Excel spreadsheet.
- The possibilities of VBA are endless, this language allows for extensive customization of Office applications.
- VBA allows you to manipulate GUI features of Microsoft Office applications for your advantage, such as customization of menus, dialogue boxes, forms, etc.
- Custom macros used to execute are made by typing commands into an editing module.
- VBA is often used in the business world, as its use in excel is massive. Many accountants will use VBA to macro the entire creation of balance sheets from different sources.
- Programmers can use VBA to replicate code, merge functions, and designing languages.

- VBA can also work externally outside of Microsoft applications, using COM Interface, allowing users to utilize commands across their computer. Apparently, this is a widely used method.
- VBA is crucial to the financing world, as many jobs in the field are built around the manipulation of data, so coders and businesspeople often work together for this objective.
- VBA utilizes commands very similarly to other coding languages, with similar styles of creation of variables, logical operators, arithmetic operators, and more.
- Because of this, the user has much more freedom than just making macros. While not complex, the "Hello World" creation is possible in VBA, as is so much more.
- VBA utilizes dynamic-link libraries to allow for user-defined functions, automation and access to Windows API.
- Despite its capabilities, VBA cannot run as a standalone program, only within a host application.

Website Links:
https://docs.microsoft.com/en-us/office/vba/api/overview/
https://en.wikipedia.org/wiki/Event-driven_programming
https://trumpexcel.com/vba-events/
https://www.investopedia.com/terms/v/visual-basic-for-applications-vba.asp