Programming

FINAL ASSAGINMENT

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Introduction:

I was assigned to make an application for the ministry of health of Jordan, the program should be fully functional to make the job of the employee easier, so I made an application with Java language to help them work easy.

The it is about new and old patients and how they can deal with them.

Algorithm:

An algorithm is a step by step operation which starts with input and ends with an output.

The idea must to be built in your mind before you can start working on coding with IDE so you would know what are you doing, so you need to know the logic first.

The Algorithm of My Application:

I followed a simple algorithm which the employee signs in into the application and chooses between new patients or an old one.

If he chooses the new patients a window will open where he will put the information of the new patients and just save it with one click.

If he chooses the old patients a window will open where you can put the information of the old patients to sign in.

If the new patient is selected the employee will put the new patient information and then choose a doctor to book an appointment with.

Also the patients can write the hospital they want

Types of Programming:

Procedural Programming: The procedural code is a code that directly instructs a device on how to finish a task in logical steps, it often written in one class (project) and doesn't extends to other classes among the program.

Object Oriented: In object oriented, programs are generally large. So we have to separate the classes to make it easier to compile and execute in the IDE.

We can link the classes together and make them communicate with each other.

Event Driven: Event driven programming is to make the program execute any command determined by an event, like clicking a button or putting a data value in a text box.

You can use those three types in your programming depending on what output you want to get and on the complexity of the application you are making.

- You can use procedural programming for simple projects that are not complex.
- You can use object oriented programming for large projects that needs more power to compile and execute.
- You can use event driven programming to make projects with windows and buttons that do command like saves data or go to another project.

Using the three types together to make a fully complex project that can come up with an output that needs hard working and is shown when doing a certain command.

Should we use them in the same time every time?

You can't just use all of them just to show that you can code in all the types, sometimes you only use one or maybe two of them to make a full program.

because if you use them all without a specific goal that will make bunch of errors in your code (IDE) and when the user uses it.

Using an IDE and Not Using One:

The IDE is a lot more useful when writing or reading code than when writing without an IDE. IDE's let you read through the code more easily, and the debugging operation simply to do.

Using IDE can show errors and warning you might not notice when writing a code without an IDE.

Testing your work is a very important step, an IDE can test your project in seconds comparing when you want to write on a notepad or notepad++ when you need to compile it by hand and then execute it from the command window on your device.

Debugging in Programming:

Debugging is the routine process of locating and removing computer program bugs, errors or abnormalities, which is methodically handled by software programmers via debugging tools. Debugging checks, detects and corrects errors or bugs to allow proper program operation according to set specifications.

Developing software programs undergo heavy testing, updating, troubleshooting and maintenance. Normally, software contains errors and bugs, which are routinely removed. In the debugging process, complete software programs are regularly compiled and executed to identify and rectify issues. Large software programs, which contain millions of source code lines, are divided into small components. For efficiency, each component is debugged separately at first, followed by the program as a whole.

Coding Standards:

Coding standards are a way to write the code which is different from a programming language to another, maintaining the coding standards is necessary otherwise the code will be rejected during code review if they give it to a company or an organization.

Coding Standards for Components: Writing the name of the components by their function is recommended, this approach enhances code readability for any other programmers.

Coding Standards for Classes: Class names will typically be nouns beginning with uppercase letter. If it contains multiple words, then the uppercase will start with each word (camel case).

Coding Standards for Interface: Usually interface name should be adjective starting with uppercase letter. If it contains multiple word than every inner word should start with uppercase.

Coding Standards for Methods: Usually the name of the interface should be adjective beginning with uppercase letter.

Coding Standards for Variables: The variable names will typically be nouns beginning with lowercase letter. If it includes multiple words, then the uppercase will start with each word.

Coding Standards for Constants: Typically constant name should be a noun. It should only include uppercase if it includes multiple words that are separated by an (underscore) symbols.