

Phrases 3

- A website **is producing service errors** when loading certain pages.
- so it might make sense to figure out **what changed** between **what it was working correctly** and **when it started to fail**. ?????????????????????????????????
- but it's at least a **clue** that whatever's happening is related to some other service in the overall system ?????????????????????????????????
- the application **to finish** with an error **saying** unable to connect to the database server. ?????????????????????
- if an internal server error **appears**, it is important to **determine** what and where the error is, correct it, and understand **why it occurred** to **avoid the same type of error** in the future.
- So when you report a bug make sure you include **as much information as possible**
- It could be that we're dealing with **proprietary software** and the source code isn't available at all ?????????????????????????????????
- It is important to have **a reproduction case** for a problem that we're trying to solve. ?????????????????????
- If the application **used to work** fine and recently **started crashing**. It's useful to look into what **changed in between**. ?????????????????????????????????
- we can **search for it online** to try to figure out its meaning. ?????????????????
- checking if the crashes still **occur**
- some hardware component is **at fault** ???
- reinstalling the application and running it with the default configuration still **leads to** random crashes ???????
- **As a first step**, you **tried looking at** the logs **to see if** there's any error that **may point to** what's happening, but you only find **an error saying** application terminated and **no useful information**
??
- A user **asks for** your **help with** a problem on their computer. When you ask for details, the user tells you that the internal billing application crashed **while** they were trying to **generate** an invoice for a customer
- As usual, ????
- We'll also **dive into** how to **document** a problem and its solutions, and how to **learn from** our **mistakes** by writing **postmortems**
??
- we'll learn **a bunch of** different **techniques** that we can use to understand the root causes and how to fix them, or at least **lessen the damage** when fixing is not possible
???????
- **There could be** a bug in **some part of** the code, which does an **unsupported** operation
- The program was starting a bunch of threads but never closing them, so it **eventually** ran out of memory and crashed.
- So while **no data** was actually **lost**, the **reoccurring** crashes were **increasing** the average time to **process** the data ?????????????????????????????????

- This program **parsed** logs to **generate** alerts when it found **suspicious** events
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- programs that terminate with **uncaught exceptions**, systems that **fail to update** to the latest version
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- A program **terminates unexpectedly**, a device reboots for **no apparent reason**, the operating system hangs and we lose all our **unsaved work**
????????????????????
- Once **you're done writing** the Python script,
- hopefully you're starting to **feel** even more **confident in** your skills and abilities
- so I **decided** to spend more time **tweaking** the code to **make** the migration **go faster**
????????????????????
- In this case, you'll **definitely** want to split your execution across processors
- we should **double-check** if the copy is really needed
- We **see** that there's **a bunch of** ffmpeg processes running, which are basically using **all the available CPU** ?????? ffmpeg ?????????????????? CPU
- It seems that **something is going on** with the web server and we need to **investigate further** ??????????????????
- there are too many applications **configured to start on boot**
- address ; deal with ; take care of ??;??; ??
 - The general **strategy** for **addressing** slowness is to **identify the bottleneck** in our device, our script, or our system to run slowly
????????????????????
 - The operating system also **takes care of** some caching for us
????????????????
 - **Dealing with Intermittent Issues** : Have you ever tried to solve a problem that happened only **occasionally**? ??????: ?????????????????
- We need to really **study** each **problem** to **get to** the root cause of the **slowness**
- we'll have to upgrade the **underlying** hardware ??????????
- If we've closed **everything** that **wasn't** needed and the computer is still slow, we need to **look into** other possible reasons
- But **eventually**, you'll **run out of** memory and everything will **slow down**
????????????????
- But if you keep opening tabs, **at some point** your computer will become **sluggish**
????????????????
- ignoring upper vs lower case and **punctuation** ??????????
- We've also talked about problems that **go away on their own** and then **pop up** again
????????????????
- So we've **looked at** a few ways of **getting to the root cause** of a problem
????????????????
- If a problem **goes away** by turning it off and on again, there's **almost certainly** a bug in the software ??????????????????
- It can **take some time** to **get the setup** ??????????
- we have to try our code in **a newly installed machine** ??????
- **Whenever possible**, we should check our **hypothesis** in a test environment, instead of the production environment that our users are working with
????????????????
- **looking at** the documentation of the applications **involved**
- **Searching online for** the error messages that we get ??????????
- how do we **go about** finding the **actual root cause** of the problem? ??????????

- when trying to **create a reproduction case**, we want to find the **actions** that reproduce the issue ??????????????????????
- you'll find an error message that will help you understand **what's going on** ??????????????????????
- **There could be** a bunch of reasons **why this could happen**. It **could be** problems with the network routing, old config files interfering with a new version of the program, a permissions problem ??????????????????????
- we **want to** consider the simplest **explanations** first and avoid jumping into **complex** or **time-consuming** solutions unless we really have to ??????????????????????
- we **first check** if it's **correctly plugged in** and that there's **electricity** coming from **the plug** before **taking it apart** or replacing it with a new device ??????????????????????
- There are some common questions that we can ask a user that simply report something doesn't work
 - What happen when you open the app?
 - What were you trying to do?
 - What steps did you follow?
 - What was the expected result?
 - What was the actual result?
- you check if you can **reproduce** the issue **on your own computer**.
- what about the documentation we should **note** that this version of the software **won't start** if that directory doesn't exist ??????????????????????
- to see if we find anything **suspicious**. ??????????????????
- remediation; remediate ??;??
 - Depending on the problem, this might include an immediate **remediation** to **get** the system **back to health**, and then a **medium** or **long-term** remediation to **avoid** the problem in the future ??????????????????????
 - Now, we can go ahead and **remediate** the issue ??????????????????
- You'll want to know things like **when it happened**, **what the user was doing when it happened**, and **how regularly it's happening**
- the problem could be **a hardware issue**, **a software issue**, or even **a configuration issue**. So the first thing to do is **to get more information**
- Before we **jump in**, I'd **love to take a quick moment** to share why I'm so **excited** to be here with you **taking part in** this program ??????????????????????
- We'll talk about problems that can **affect** any operating system
- **Throughout** this course, we'll **look at** a bunch of different **strategies** and **approaches** for **tackling problems** like those ??????????????????????
- Sometimes, you might need to **figure out** why a program isn't **doing what it's supposed to**. Maybe it's crashing **unexpectedly** or **getting stuck** when it should be processing information ??????????????????????
- various; many different flavors of ???
 - Need a system administrator to handle **various** issues that come up on my system. (????????????????????)
 - In your IT career, you'll come across **many different flavors of** technical problems ???

- If the service **encounters** a problem, it **logs** an error message **to** the syslog, indicating **what was wrong** and the username that **triggered** the action that **caused** the problem
??
- you'll **write** some **automation scripts** that will **process the system log** and **generate** a bunch of reports **based on** the information **extracted from** log files
??
- Developers of the service are **asking for your help** with getting some information **out of those logs**, **to better understand** how the software **is being used** and how to improve it
??
- So it's valuable that we **spent some time looking into** what resources exist to help us solve our problem
??
- Remember, we want to **avoid reinventing the wheel**. **No matter how tricky and intricate the challenge appears**, chances are that others have solved something similar before
??
- **figuring out** how we can **tackle** the problem by the tools provided by the Python standard library or by external modules
?????? Python
????????????????????????????????
- **spelling out** what needs to be done and **identifying what the given inputs and desired outputs are for** that program that we need to write.
??
- Linux is the primary OS that I use in my **day-to-day** job as a system administrator.
- In our specific case, returning the original value **makes sense** when we can't rearrange it
????????????????????????????????????
- By running Unit Tests, developers can **identify** and fix any bugs that **appear**
????????????????????????????????
- when the results don't match the **expectations**, the code will **raise** an error
????????????????????
- Tests can **help make** good code **great**.
????????????????
- make sure that it **behaves the way that they expected to**.
????????
- You want to make sure that when you run a program, it **behaves the way that it should**
????????????????????
- it's **harder to** really **be confident** that the code will **do what it's supposed to**
????????????????
- we'll do a **quick rundown** of the many concepts around testing
????????????????
- Log files contain a lot of **useful** information, **particularly** when you're trying to debug a **tricky** problem that's **happening on** a computer
????????????????????
- **To be able to** process the output of commands, we'll **set a parameter** called capture output
- This can **be handy for** system commands
????????
- Software testing is a process of evaluating computer code to determine **whether or not** it does **what you expect it to do**
????????????????????(??)????????
- if we just want to run a command and only care about **whether or not** it was successful.
????????
- which means that our script **has no control over** it
????????
- helping us create a custom vision-language model **tailored to** our specific tasks.
????????
- These are parameters that are **passed to** a program when it started.
????????

- Another **common way of** providing information to our programs **is through** command line **arguments** ??????????????????????
- The **most commonly** used shell on Linux is called bash. Linux ????? shell ?? bash
- You are allowed to **refer to** your completed lab notes during the quiz
????????????????????
- Please note that there is a **graded quiz** that **follows** this lab. You must complete the lab before attempting the quiz. The quiz will **assess** your **comprehension** of the key concepts and procedures covered in the lab
??
- **Wildcard**: A character that can match more than one character
- **Applicable** from November 28 to December 5, 2024, 11:59 PM (UTC +0) ???
2024/11/28...
- **Not applicable to** services that have been doubled before. ??????????????
- This module includes a bunch of different functions that can help **manipulate** strings
????????????????????
- reserved characters ????
- But **thankfully**, the **principles** are always the same ??????????????
- Implementation ??; ??; ??; ??; ??
- a bunch of; a ton of; plenty of ??; ??; ??
 - There are **plenty of** others you'll be using soon ??????????????
 - Data can be provided to a computer in **a bunch of** different ways
????????????????
 - There's **a ton of** things that you can do with Python ??? Python ?????
 - there's **a broad range of** tools that **incorporate** regular expressions
????????????????
- encounter; come across ; experience ??
 - we'll provide resources you can access if you **encounter** any issues you cannot resolve **on your own**. ?????????????????????????????????
 - we'll give you the tools to solve real world problems that you might **come across** in your IT role ????????????? IT ?????????????
 - A user is **experiencing** strange behavior from their compute
- allowing you to use both Linux and Windows operating systems **as if** they were installed on your local machine ????? Linux ? Windows ?????????????????????
- Qwiklabs is an online lab tool that creates **simulated** Windows and Linux OS environments Qwiklabs ????????????????? Windows ? Linux ?????
- you will use Qwiklabs through Coursera to complete **hands-on** activities that include writing Python scripts, debugging Python scripts ??? Coursera ?? Qwiklabs
???????????????? Python ????? Python ??
- A lot of programs **are capable of** exporting data as CSV files ????????????? CSV ??
- Here is the code **all together**. ?????????
- We can use the datetime module to **make it easier** for us humans to read
????????????????????
- File paths **are most often** used to save and load information ?????????????
- You see the potential issues? It's **enough to make you growl** ?????????????
- we get some **hands-on practice** with all this ?????????
- the interpreter **raises** an error ?????
- absolute path ; relative path ?????;????
- Is it **worth** the time ?????

- Without virtual environments, managing these dependencies could become a **nightmare** ??????????????????????
- This term **stands for** Integrated Development Environment, and usually **refers to** a code editor ??????????????????????
- when we run the Python 3 command, we get an **interactive interpreter**. ????? Python 3 ??????????????????????
- Interpreted vs. Compiled Languages ??????????????
- In my job as a sysadmin, I **mainly work** with the Linux operating system ?????????????????????? Linux ?????
- You **may have also heard of** Unix ?????? Unix
- We **refer to** these different **flavors** of Linux as distributions. ?????????? Linux ?????
- They **are tempted** to spend a lot of time trying to solve the problem **on their own** ??????????????????????
- To check that our code is doing **everything it's supposed to do** ??????????????????????
- In this **scenario**, it **makes sense** to use **a set** to store the current users ??????????????????????
- I was **happy with** it, the user was happy with it. ??????????????
- We're gonna **dive into object-oriented** programming ??????????????????
- It's your call ; It's up to you ?????
- we add, remove, or change the elements **inside** that box ??????????????????
- it **doesn't matter** how long each string is on its own. **What matters** is how many elements the list has ?????????????????? list ??????
- indicate ; represent ??
 - we use **square brackets** to **indicate** where the list starts and ends ?????(?)?????????????????
 - a list of integers **representing** the size of network packets ??(??)????????????(??)
 - The variable device_id **represents** a device ID containing **alphanumeric** characters?????????
- You can **think of** lists **as** long boxes ??????????????
- **make** the whole string **more readable** ??????????
- **Heads up**, this can **get complex** fast ??????????????
- They focus on applying AI in **practical** ways ?????????????? AI
- there are a bunch of **exercises** ahead to help you with that ??????????????????
- We can use strings to **represent** a lot of different things. ??????????????????
- It never **let me down** ????????

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