



Learn from

HOW TO ~~WIN~~ HACKATHONS

Saket Upadhyay, CSDF, VIT Bhopal



VIT[®]
BHOPAL



The background of the slide features a wide-angle photograph of a snowy mountain range. In the foreground, a well-groomed ski run with several tracks is visible, leading towards a base area with some small buildings and flags. The sky is clear and blue.

WHAT WE CAN LEARN FROM HARRY POTTER?

(Tips/Tricks for yourself)



“WIT BEYOND MEASURE IS MAN’S GREATEST TREASURE.”

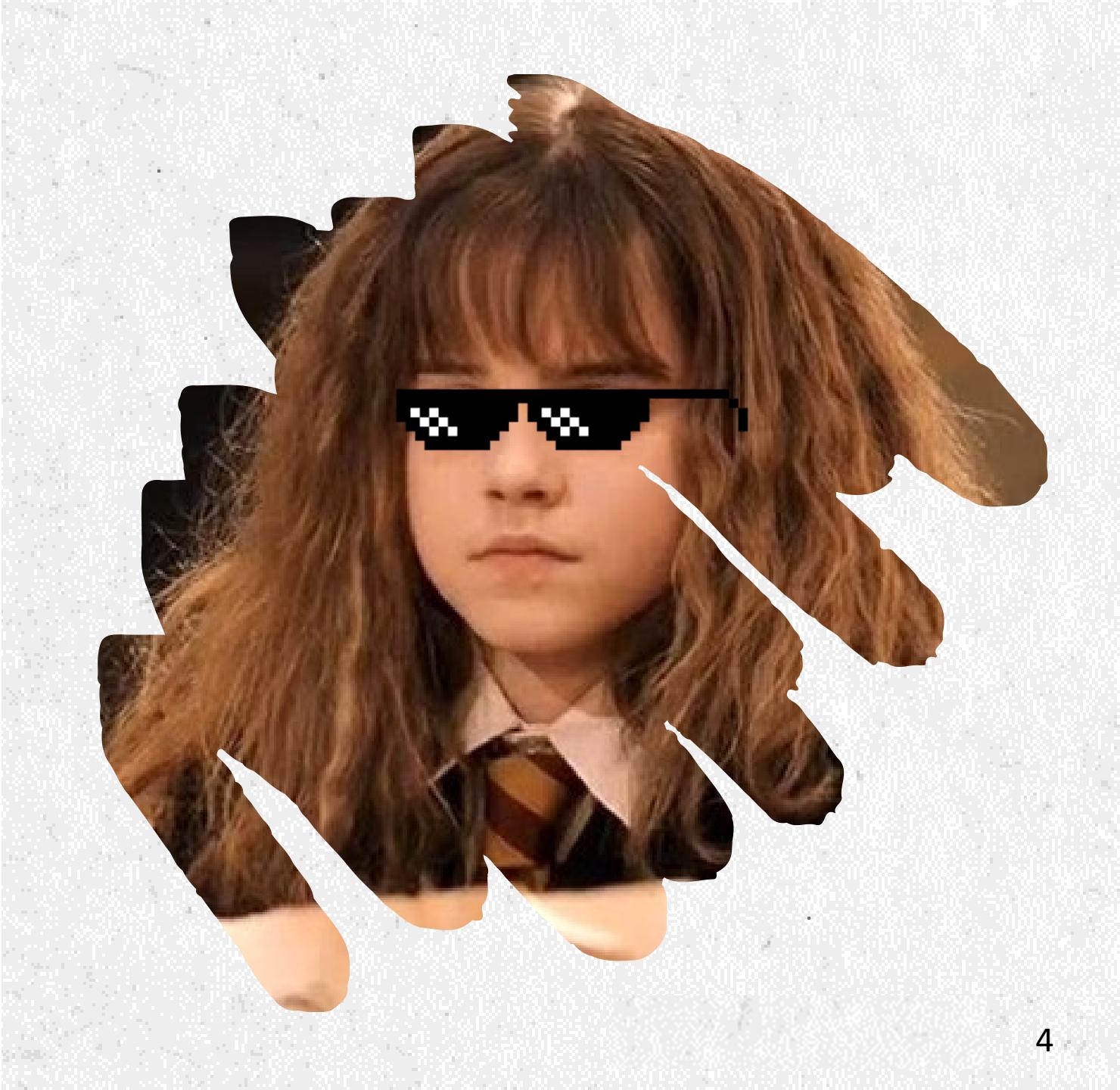
~ Luna Lovegood, Ravenclaw

- Take part for learning, winning is a afterthought.
- Gather as much information about your craft as you can.
- Show your expertise when it's needed. Spend rest of the time in learning more.

**“JUST BECAUSE YOU HAVE
THE EMOTIONAL RANGE
OF A TEASPOON DOESN’T
MEAN EVERYONE HAS.”**

~Hermione Granger

- Listen to your team mates.
- Take everyone's suggestions seriously
- Welcome a different point of view in a problem





**“A PHOENIX, HARRY.
PHOENIXES BURST INTO
FLAME WHEN IT IS TIME
FOR THEM TO DIE AND
ARE REBORN FROM THE
ASHES.”** ~ Albus Dumbledore

“Not winning is NOT a defeat, not trying IS.”
~ Saket Upadhyay

SOME MORE SERIOUS STUFF THAT PEOPLE RARELY TALK ABOUT.

Note down your Ideas.

Library, Mid Sleep,
In mid of a convo,
Toilet, Bathroom,
While eating food ...
~ whatever you are doing/ wherever you are.

Pen-Paper, your Hand, Computer, Mobile
heck even your underwear! ...
WHATEVER YOU HAVE, JUST WRITE IT DOWN.

Background OSINT shenanigans

- Who are your organizers?
- What are their interests?
- What is their expertise?
- Which community is major part of the event?
- Who will judge your submission?
- What is the end goal of that event?
- What Idea are they promoting.
- Et Cetra.

I want you to try this before presenting
→ your projects in this hackathon

The background of the slide features a wide-angle photograph of a majestic mountain range. The peaks are covered in thick white snow, with some rocky areas visible. The sky above is a clear, pale blue. In the foreground, there's a dark, textured area that looks like a shadow or a stylized graphic element.

MON EXPÉRIENCE

How we legally cracked the system and secured 2nd position with just 133 lines of main code.

ON SEPT. 10, 2020 I CREATED A PERSONAL PROJECT.

Merge branch 'master' of https://github.com/Saket-Upadhyay/WriterScript ...	Saket-Upadhyay committed on Sep 10, 2020	Unverified		0c1fa3b	
Add img	Saket-Upadhyay committed on Sep 10, 2020	Unverified		5ac336f	
Update README.md	Saket-Upadhyay committed on Sep 10, 2020	Verified		5120d24	
Update README.md	Saket-Upadhyay committed on Sep 10, 2020	Verified		b22857c	
Beta Test	Saket-Upadhyay committed on Sep 10, 2020	Unverified		34b0793	
Beta Test	Saket-Upadhyay committed on Sep 10, 2020	Unverified		eb5bdffd	

[Newer](#) [Older](#)

This project has a code base of more than 1500+ lines,
second only to my previous research project contribution in PACE capping at 3000+ lines of code.

TO LEARN THE THEORY OF COMPUTATION AND COMPILER DESIGN; I created it as a ‘teaching tool’ and took the project very seriously.

Saket-Upadhyay / WriterScript Public

Unwatch 1 Unstar 1 Fork 1

Code Issues Pull requests Actions Wiki Security Insights Settings

master 1 branch 1 tag Go to file Add file Code

Saket-Upadhyay regex fix 10ffd8b on May 2 37 commits

Docs/Images	Add img	13 months ago
Examples	alignment example prints abcd...	13 months ago
WriterScript	added input cap, buffer rebound v0.4.0	13 months ago
.gitignore	Initial commit	13 months ago
Dockerfile	add docker file	7 months ago
LICENSE		
README.md		
Todo.md		

About Word Count dependent Esoteric Programming Language based on BrainF*ck Logic

brainfuck esoteric-language writer ctf

Readme MIT License

Note

I created this project to help myself learn Theory of Computation and Compiler Design (5th Semester Course). This project is just for fun and is not associated with any person, organization (academic or non-academic) whatsoever. The project is under MIT license, so it can be used as a teaching resource, project, personal use, etc. with proper credits / citation to this repository.

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To use this rich code-base in future, I DEPLOYED A GLOBAL PYTHON PACKAGE AND A DOCKER CONTAINER.

The image is a collage of screenshots illustrating the deployment of WriterScript. It features a GitHub project page for 'writerscript 0.4.0' (September 12, 2020), a Docker Hub page for 'x64mayhem/writerscript' (March 2021), and two mobile phone screens displaying the WriterScript logo.

GitHub Project Page (September 12, 2020):

- Search projects bar: Search projects
- Help, Sponsors, Log in, Register buttons
- Project title: writerscript 0.4.0
- Install button: pip install writerscript
- Status: Latest version (green)
- Released: Sep 12, 2020
- Description: A word count based Esoteric Programming Language based on logic of BrainFuck
- Navigation: Project description (selected), Release history, Download files
- Project links: Homepage

Docker Hub Page (March 2021):

- Search bar: Search for great content (e.g., mysql)
- Explore, Pricing, Sign In, Sign Up buttons
- Image: Blue cube icon
- Repository: x64mayhem/writerscript
- By x64mayhem • Updated 7 months ago
- Description: Word Count dependent Esoteric Programming Language based on BrainF*ck Logic.
- Container
- Pulls: 20
- Overview, Tags tabs

Mobile Screens:

- Top screen: WriterScript logo (stylized pen and paper icon) and the text "WriterScript".
- Bottom screen: WriterScript logo and the text "WriterScript".
- Above the phones: A "Docker Pull Command" box containing the command: docker pull x64mayhem/writerscript

On May 1, 2021; We created a project for Google DSC's: "HackDSC'21" Hackathon in under 6 Hours.

The image is a collage of screenshots from two websites. On the left, there are two instances of the "W!SDOM Payment Portal". The top one has a yellow background and features a sample Maestro card with the number 6759 6498 2643 8453. The bottom one has a purple background and features a sample Discover card with the number 6011 0009 9013 9424. Both forms include fields for Name (Mr. Saket Upadhyay), Card Number, Expiration (mm/yy), Security Code, and a "Submit" button. To the right, there is a screenshot of the HackDSC website. It features a large blue banner with the text "HACKDSC" and "HVCKDSC" below it. To the right of the banner, the year "2021" is written vertically. At the bottom, there are three buttons: "Register Now", "Join our discord", and "Download Brochure".

WiSDOM

This repository contains the prototype for WiSDOM obfuscation module concept. Created during HackDSC'21 under Open Innovation in Data Privacy and Security domain.

This project is in active development phase.



WiSDOM : WriterScript based Data Obfuscation Module

WiSDOM is a strategic Data Obfuscation Module that takes your sensitive data and converts it into a work of literature. This means that even if your data is intercepted the original content will be secure and the attacker will see something else altogether. You can disguise your Bank Account details as a chapter from Harry Potter and no one would be the wiser. Even if your sensitive data is intercepted chances are that it will be ignored due to its innocuous appearance. With the increasing use of cyberspace, everything is online and thus accessible to attackers. From Private messages to Financial Details everything can be intercepted online.

WiSDOM can obfuscate your plaintext/data structure/ binary data (<1MB) into **infinite** combinations of random data for transmission over insecure internet protocols like HTTP, TELNET, and FTP. This can also be extended to store data in databases where heavy encryption algorithms cannot be implemented due to resource constraints or instant messaging services. More accessible than many encryption algorithms, efficient on low-end systems.

WiSDOM also provides and easy-to-use API and GUI (made in Python3 Flask).

NOTE : If <https://wisdomdemo.herokuapp.com/checkformdatarender> crashes then please refresh the page, there is some unknown bug in heroku deployment that does not happen in local execution.

Data Sent Over W!SDOM Server

Original JSON Form Data

```
{'name': 'Mr. Saket Upadhyay', 'cardno': '6011 0009 9013 9424', 'expdate': '06/34', 'cvv': '234'}
```

WiSDOM Form Data

Data information knowledge and wisdom, are closely related concepts but, each has its own role in relation, to the other and each term has its own, meaning According to a common, view data are collected and, analyzed; data only becomes information suitable for making decisions, once it has been analyzed, in some fashion One can, say that the extent to, which a set of data is informative to someone, depends on the extent to, which it is unexpected by, that person The amount of, information contained in a data, stream may be characterized by its Shannon entropy Knowledge, is the understanding based on, extensive experience dealing with information, on a subject For example, the height of Mount Everest, is generally considered data The, height can be measured precisely with an altimeter and, entered into a database This, data may be included in, a book along with other, data on Mount Everest to, describe the mountain in a, manner useful for those who, wish to make a decision about the best method, to climb it An understanding, based on experience climbing mountains, that could advise persons on, the way to reach Mount, Everest's peak may be seen, as "knowledge" The practical climbing, of Mount Everest's peak based, on this knowledge may be seen as "wisdom" In, other words wisdom refers to, the practical application of a, person's knowledge in those circumstances, where good may result Thus, wisdom complements and completes the, series "data" "information" and "knowledge", of increasingly abstract concepts Data, are often assumed to be, the least abstract concept information the next least and, knowledge the most abstract In, this view data becomes information, by interpretation; eg the height, of Mount Everest is generally, considered "data" a book on, Mount Everest geological characteristics may, be considered "information" and a, climber's guidebook containing practical information, on the best way to, reach Mount Everest's peak may be considered "knowledge" "Information", bears a diversity of meanings, that ranges from everyday usage, to technical use This view, however has also been argued, to reverse the way in, which data emerges from information, and information from knowledge Generally, speaking the concept of information, is closely related notions, of constraint communication control data, form instruction knowledge meaning mental stimulus pattern perception and, representation Beynon-Davies uses the concept, of a sign to differentiate, between data and information; data, are a series of symbols, while information occurs when the, symbols are used to refer, to something Before the development, of computing devices and machines, people had to manually collect, data and impose patterns on, it Since the development of, computing devices and machines these devices can also collect, data In the 2010s computers, are widely used in many, fields to collect data and, sort or process it, in disciplines ranging from marketing analysis, of social services usage by, citizens to scientific research These, patterns in data are seen, as information which can be, used to enhance knowledge These, patterns may be interpreted as, "truth" (though "truth" can be, a subjective concept) and may be authorized as aesthetic, and ethical criteria in some, disciplines or cultures Events that, leave behind perceivable physical or, virtual remains can be traced, back through data Marks are, no longer considered data once, the link between the mark, and observation is broken Mechanical, computing devices are classified according, to the means by, which they represent a datum as, a voltage distance position or, other physical quantity A digital computer represents a piece, of data as a sequence, of symbols drawn from a, fixed alphabet The most common, digital computers use a binary, alphabet that is an alphabet, of two characters typically denoted, "0" and "1" More familiar, representations such as numbers or, letters are then constructed from, the binary alphabet Some special, forms of data are distinguished, A computer program is, a collection of data which can, be interpreted as instructions Most, computer languages make a distinction between programs and, the other data on, which programs, operate but, in some languages, notably Lisp, and similar languages, programs are essentially indistinguishable from, other data It is also, useful to distinguish metadata that, is a description of, other, data A similar yet earlier, term for metadata is "ancillary, data" The prototypical example of, metadata is the library catalog, which is a description of, the contents of books In, the early 1940s memory technology, often permitted a capacity of, a few bytes The first electronic programmable digital computer, the ENIAC using thousands of, octal-base radio vacuum tubes could, perform simple calculations involving 20, numbers of ten decimal digits, which were held in the, vacuum tube The next significant, advance in computer memory came, with acoustic delay line memory, developed by J Presper Eckert, in the early 1940s Through, the construction of a glass, tube filled with mercury and, plugged at each end with, a quartz crystal delay lines, could store bits of information, in the form of sound, waves propagating through mercury with the quartz crystals acting, as transducers to read, and write bits Delay line memory, was limited to a capacity, of up to a few, hundred thousand bits to remain, efficient Two alternatives to, the delay line the Williams tube, and Selectron tube originated in, 1946 both using electron beams, in glass tubes as means, of storage Using cathode ray, tubes Fred Williams invented the, Williams tube which was, the first random-access, computer memory The, Williams tube was more capacious, than the Selectron tube (the, Selectron was limited to 256, bits while the Williams tube could store thousands) and, less expensive The Williams tube, was nevertheless frustratingly sensitive to, environmental disturbances Efforts began in, the late 1940s to find, non-volatile memory Magnetic-core memory allowed, for recall of memory after, power loss It was developed, by Frederick W Viehe and, An Wang in the, late 1940s and improved by Jay, Forrester and Jan A Rajchman, in the early 1950s before, being commercialised with the Whirlwind, computer in 1953 Magnetic-core memory, was the dominant form of, memory until the development of, MOS semiconductor memory in the, 1960s Semiconductor memory began in, the early 1960s with bipolar memory which used bipolar, transistors Bipolar semiconductor memory made, from discrete devices was first, shipped by Texas Instruments to, the United States Air Force, in 1961 The same year, the concept of solid-state memory, on an integrated circuit (IC), chip was proposed by applications, engineer Bob Norman at Fairchild, Semiconductor The first bipolar semiconductor, memory IC chip was, the SP95 introduced by IBM in, 1965 While bipolar memory offered, improved performance over magnetic-core memory, it could not compete with, the lower price of magnetic-core, which remained dominant up until, the late 1960s Bipolar memory, failed to replace magnetic-core memory, because bipolar flip-flop circuits were too large and, expensive, MOS memory Main article: MOS, memory The invention of the, MOSFET (metal-oxide-semiconductor field-effect transistor or, MOS transistor) by Mohamed M, Atalla and Dawon Kahng at, Bell Labs in 1959 enabled, the practical use of metal-oxide-semiconductor, (MOS) transistors as memory cell, storage elements MOS memory was, developed by John Schmidt at, Fairchild Semiconductor in 1964 In, addition to higher performance MOS, semiconductor memory was cheaper and, consumed less power than magnetic, core memory In 1965 J, Wood and R Ball, of the Royal Radar Establishment proposed, digital storage systems that use, CMOS (complementary MOS) memory cells, in addition to MOSFET power, devices for the power supply switched cross-coupling switches and, delay line storage The development, of silicon-gate MOS integrated circuit, (MOS IC) technology by Federico, Faggin at Fairchild in 1968, enabled the production of MOS, memory chips NMOS memory was, commercialized by IBM in the, early 1970s MOS memory overtook, magnetic core memory as, the dominant memory technology in the, early 1970s The two main, types of volatile random-access memory, (RAM) are static random-access memory, (SRAM) and dynamic random-access memory, (DRAM) Bipolar SRAM was invented, by Robert Norman at Fairchild, Semiconductor in 1963 followed by, the development of MOS SRAM, by John Schmidt at Fairchild, in 1964 SRAM became an, alternative to magnetic-core memory but, required six MOS transistors for each bit of data, Commercial use of SRAM began, in 1965 when IBM introduced, their SP95 SRAM chip for, the System/360 Model 95 Toshiba, introduced bipolar DRAM memory cells, for its Toscal BC-1411 electronic, calculator in 1965 While it, offered improved performance over magnetic-core, memory bipolar DRAM could not, compete with the lower price, of the then dominant magnetic-core, memory MOS technology is, the basis for modern DRAM In, 1966 Dr Robert H Dennard, at the IBM Thomas J, Watson Research Center was working, on MOS memory While examining, the characteristics of MOS technology, he found it was capable, of building capacitors and that, storing a charge or no, charge on the MOS capacitor, could represent the 1 and 0 of a bit, while the MOS transistor could, control writing the charge to, the capacitor This led to, his development of a single-transistor, DRAM memory cell In 1967, Dennard filed a patent under, IBM for a single-transistor DRAM, memory cell based on MOS, technology This led to, the first commercial DRAM IC chip, the Intel 1103 in October, 1970 Synchronous dynamic random-access memory, (SDRAM) later debuted with the, Samsung KM48SL2000 chip in 1992, The term "memory" is also, often used to refer to, non-volatile memory specifically flash memory, It has origins in read-only, memory (ROM) Programmable read-only memory, (PROM) was invented by Wen, Tsing Chow in 1956 while, working for the Arma Division, of the American Bosch Arma, Corporation Data information knowledge and wisdom are closely related, concepts but each has its, own role in relation to, the other and each term, has its own meaning According, to a common view data, are collected and analyzed; data, only becomes information suitable for, making decisions once it, has been analyzed in some fashion, One can say that, the extent to, which a set of data is informative to, someone depends on the extent to, which it is unexpected by, that person The amount of, information contained in a, data stream may be characterized by its Shannon entropy Knowledge, is the understanding based on, extensive experience dealing with information, on a subject For example, the height of Mount Everest, is generally considered data The, height can be measured precisely with an altimeter and, entered into a database This, data may be included in, a book along with other, data on Mount Everest to, describe the mountain in a, manner useful for those who, wish to make a decision about the best method, to climb it An understanding, based on experience climbing mountains, that could advise persons on, the way to reach Mount Everest's, peak may be seen, as "knowledge" The practical climbing, of Mount Everest's peak based, on this knowledge may be seen as "wisdom" In other words, wisdom refers to, the practical, application of a person's knowledge, in those circumstances where good, may result Thus wisdom complements, and completes the series "data", "information" and "knowledge" of increasingly, abstract concepts Data are often, assumed to be, the least, abstract concept information the next, least and knowledge the most abstract In this view, data becomes information by interpretation;, eg the height of Mount, Everest is generally considered "data" a book on, Mount Everest geological characteristics may be considered "information" and a climber's guidebook, containing practical information on the, best

WE SECURED 2ND POSITION IN THE NATIONAL LEVEL HACKATHON

💡 ! The results for *HackDSC2021* are here! 💡 !

With over **750+** individuals and **350+** teams scattered across **9 domains**, the projects were assessed based on their application, relevance, design and structure of code.

More than **270 teams** submitted their completed projects, and we can undoubtedly see the sheer effort and dedication that the teams put into the projects.

🏆 Top 3 Teams: 🎉🎉

👑 Winner 👑 IIT Guhati

Project Title: M-Care (Medicines And COVID related Resources for Everyone)

Team Name: CurbYourK-Means

👑 Runner Up 1 👑

Project Title: WiSDOM

Team name: The Architect

Yours Truly

👑 Runner Up 2 👑 IIT Madras

Project Title: Decode-X

Team Name: Dart9000

🎉🎉🎉 Honourable Mentions: 🎉🎉🎉

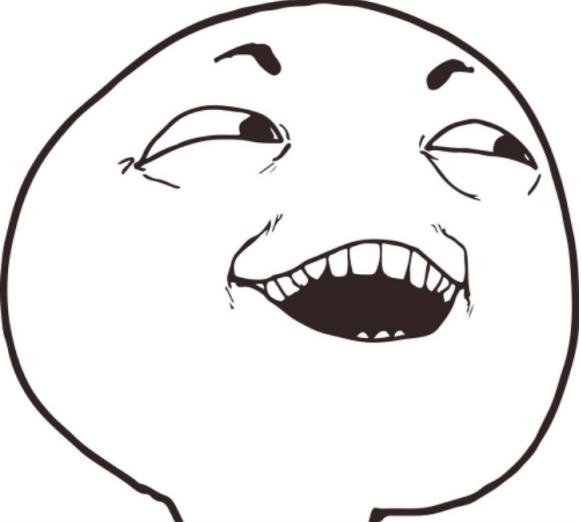
GUESS WHAT WE USED IN 133 LINE CODE? LOL

Saket-Upadhyay fixing ascii source problem, adding more source texts

1 contributor

133 lines (100 sloc) | 3.42 KB

```
1 from flask import Flask,request,jsonify
2 from flask import render_template
3 import random
4
5 import wrriterscript
6 from wrriterscript import generator
7 import base64
8 from modules.brainfuckgenerator import BFGenerator
9
10
11
12
13
14
15
16
17
18
19
20
21
```



security

writerscript 0.4.0

pip install writerscript

Released: Sep 12, 2020

A word count based Esoteric Programming Language based on logic of BrainFuck

Navigation

- Project description
- Release history
- Download files

Project description

Project links

- Homepage

Statistics

GitHub statistics:



WriterScript

Word Count depended Esoteric Programming Language based on logic of BrainF*ck

pip install writerscript

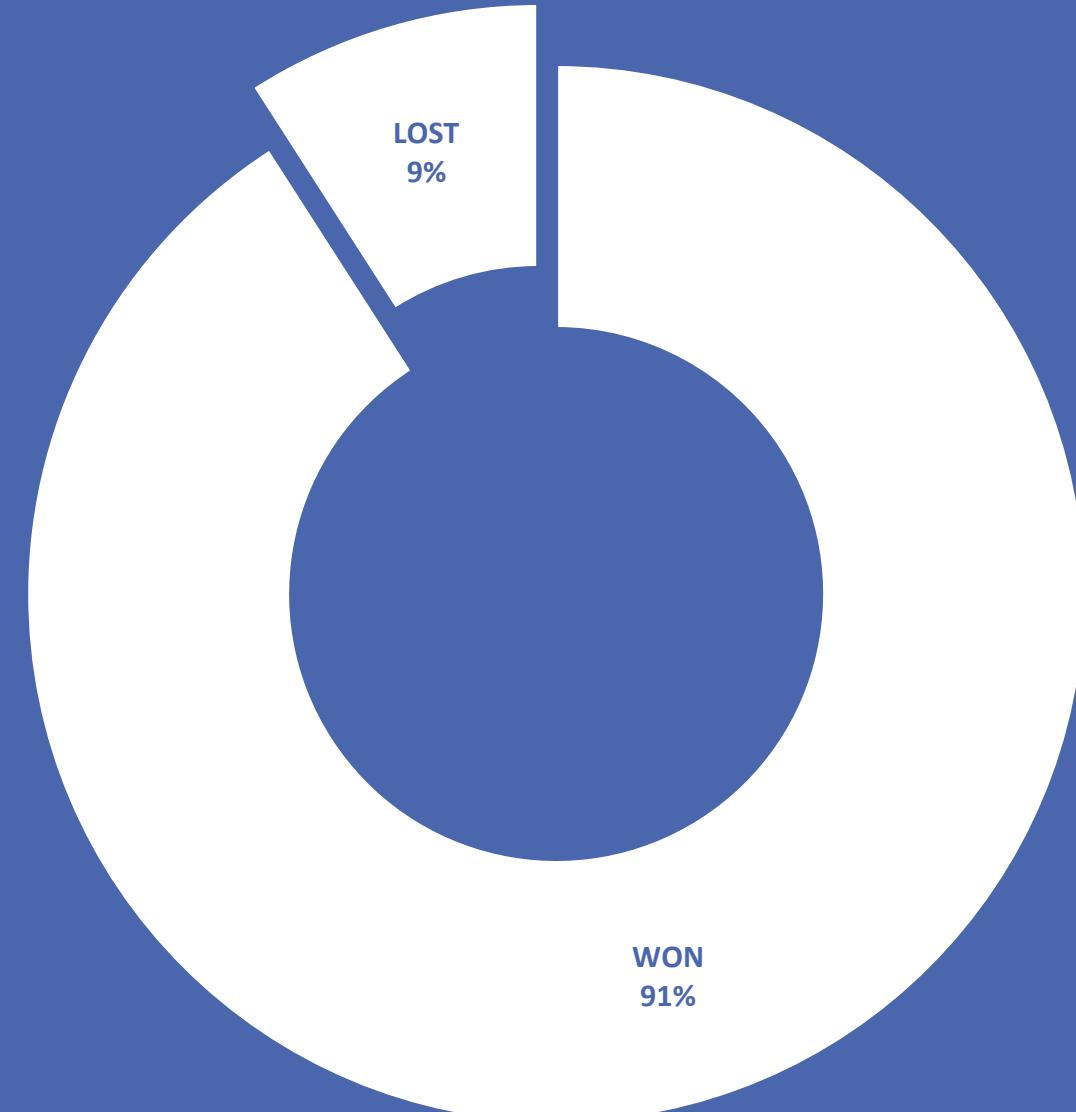
TAKE-AWAY POINTS

1. Take your personal projects seriously and complete them properly.
2. Deploy them as opensource public libraries.
3. Re-use them legally in hackathons.
4. Create proper documentations of all your projects, build good programming habits.
5. Learn API development and Package development / deployment in Python.
6. Learn Docker.

WHAT I WRITE IN MY RESUME

- All glory, shiny surface, best student stuff.
- Won 2 hackathons and 18 out of 20 CTFs in 2020-2021.
- Got a HyperX Keyboard, Airpods Pro, 20 GB ram, 500 GB HyperX SSD... blah blah blah

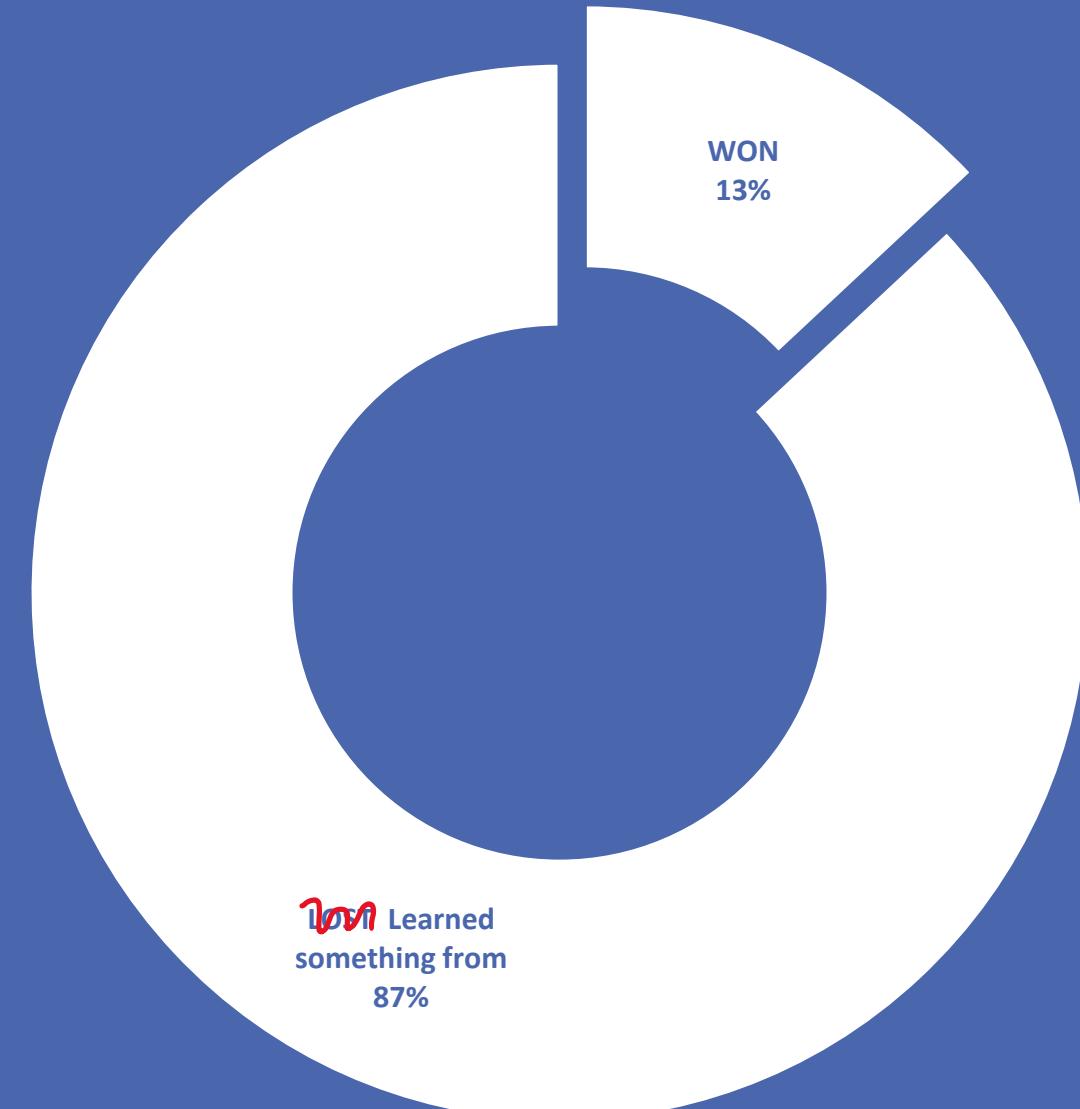
IN MY CV (2020-2021)



WHAT I WRITE IN MY NOTES

- Took part in 200+ competitions. (CTFs and Hackathons)
- Started winning only in late Winter of 2019. (Yep, just a ~~looser~~ learner for first 2 years)
- I found out which type hackathons I win and then only took part in those selected types.

FROM MY 1ST YEAR (2018-2021)





THANK YOU

<https://saketupadhyay.codes/>

- 👤 Saket Upadhyay
- @x64mayhem