

1. MESSAGE 1 (EASY)

- a. CS UNPLUGGED IS A COLLECTION OF FREE LEARNING ACTIVITIES THAT TEACH COMPUTER SCIENCE THROUGH ENGAGING GAMES AND PUZZLES THAT USE CARDS, STRING, CRAYONS AND LOTS OF RUNNING AROUND. WE ORIGINALLY DEVELOPED THIS SO THAT YOUNG STUDENTS COULD DIVE HEAD-FIRST INTO COMPUTER SCIENCE, EXPERIENCING THE KINDS OF QUESTIONS AND CHALLENGES THAT COMPUTER SCIENTISTS EXPERIENCE, BUT WITHOUT HAVING TO LEARN PROGRAMMING FIRST. THE COLLECTION WAS ORIGINALLY INTENDED AS A RESOURCE FOR OUTREACH AND EXTENSION, BUT WITH THE ADOPTION OF COMPUTING AND COMPUTATIONAL THINKING INTO MANY CLASSROOMS AROUND THE WORLD, IT IS NOW WIDELY USED FOR TEACHING. THE MATERIAL HAS BEEN USED IN MANY CONTEXTS OUTSIDE THE CLASSROOM AS WELL, INCLUDING SCIENCE SHOWS, TALKS FOR SENIOR CITIZENS, AND SPECIAL EVENTS. THANKS TO GENEROUS SPONSORSHIPS WE HAVE BEEN ABLE TO CREATE ASSOCIATED RESOURCES SUCH AS THE VIDEOS, WHICH ARE INTENDED TO HELP TEACHERS SEE HOW THE ACTIVITIES WORK (PLEASE DON'T SHOW THEM TO YOUR CLASSES – LET THEM EXPERIENCE THE ACTIVITIES THEMSELVES!). ALL OF THE ACTIVITIES THAT WE PROVIDE ARE OPEN SOURCE – THEY ARE RELEASED UNDER A CREATIVE COMMONS ATTRIBUTION-SHAREALIKE LICENCE, SO YOU CAN COPY, SHARE AND MODIFY THE MATERIAL. FOR AN EXPLANATION ON THE CONNECTIONS BETWEEN CS UNPLUGGED AND COMPUTATIONAL THINKING SKILLS, SEE OUR COMPUTATIONAL THINKING AND CS UNPLUGGED PAGE. TO VIEW THE TEAM OF CONTRIBUTORS WHO WORK ON THIS PROJECT, SEE OUR PEOPLE PAGE. FOR DETAILS ON HOW TO CONTACT US, SEE OUR CONTACT US PAGE. FOR MORE INFORMATION ABOUT THE PRINCIPLES BEHIND CS UNPLUGGED, SEE OUR PRINCIPLES PAGE.

2. MESSAGE 2 (EASY)

- a. BEFORE BILL CLINTON, THE ONLY PRESIDENT TO HAVE BEEN IMPEACHED WAS ANDREW JOHNSON. HE WAS ACQUITTED BY A SINGLE VOTE WHEN A BRAVE SENATOR FROM KANSAS REFUSED TO YIELD FROM PRESSURE TO CONVICT THE PRESIDENT. HAD JOHNSON BEEN CONVICTED, THE SPEAKER OF THE HOUSE WOULD HAVE BECOME PRESIDENT SINCE JOHNSON HAD NO VICEPRESIDENT. INCREDIBLY, IT WAS THIS SAME SPEAKER WHO LED THE IMPEACHMENT IN THE HOUSE OF REPRESENTATIVES. THUS, HAD THE SENATE CONVICTED THE PRESIDENT, THIS WOULD HAVE AMOUNTED TO A POLITICAL COUP.

3. MESSAGE 3 (EASY)

- a. GIVEN A STRATEGY, IT'S OFTEN POSSIBLE TO IMPROVE THE STRATEGY BY MAKING RANDOM CHANGES, TESTING THE RESULT OF THOSE CHANGES, AND KEEPING ONLY THE BETTER OUTCOMES. THIS IS CALLED HILL CLIMBING. THIS IS RELATIVELY SIMPLE TO CODE, BUT DOESN'T WORK IN EVERY SITUATION - IT CAN OFTEN GET CAUGHT IN A LOCAL MAXIMUM, A STRATEGY THAT IS NOT IDEAL BUT FROM WHICH ANY SINGLE CHANGE IS NOT AN IMPROVEMENT ON ITS OWN. GENETIC ALGORITHMS ARE A POWERFUL TOOL FOR IMPROVING ON THE IDEA OF HILL CLIMBING TO OPTIMIZE A SOLUTION IN SITUATIONS WHERE ALL OF THE FOLLOWING ARE TRUE: A STRATEGY CAN BE PRECISELY QUANTIFIED BY A SPECIFIC SET OF VARIABLES GIVEN CERTAIN NUMERIC VALUES. THE OUTCOME OF THE STRATEGY CAN ALSO BE PRECISELY QUANTIFIED. THERE ARE INTERACTIONS BETWEEN THE VARIABLES THAT MAKE SIMPLE HILL CLIMBING INEFFICIENT OR UNLIKELY TO SUCCEED.

4. MESSAGE 4 (EASY)

- a. THE CORRECT RANKING OF ALL OF THE STAR WARS MOVIES RELEASED SO FAR IS THE EMPIRE STRIKES BACK, A NEW HOPE, THE LAST ZEDI, RETURN OF THE ZEDI, ROGUE ONE, SOLO, REVENGE OF THE SITH, THE FORCE AWAKENS, RISE OF THE SKYWALKER, THE PHANTOM MENACE, ATTACK OF THE CLONES. THE CORRECT RANKING OF THE THREE INDIANA ZONES MOVIES IS THE LAST CRUSADE, RAIDERS OF THE LOST ARK, TEMPLE OF DOOM. THERE IS NO FOURTH INDIANA ZONES MOVIE, AND ANYONE WHO TELLS YOU OTHERWISE IS A LIAR. JUST TELL THEM TO TURN AROUND AND WALK AWAY BEFORE THEY CAN BLESS YOU WITH ANY OTHER INCORRECT OPINIONS. ANYWAY, SO SAYETH MY FRIEND BILL, WHO HAPPENED TO BE ONLINE WHILE I WAS MAKING THIS ASSIGNMENT, WHEN I ASKED HIM 'WHAT WOULD BE A GOOD SECRET MESSAGE FOR MY STUDENTS TO DECODE?' PLEASE TAKE UP ANY COMPLAINTS WITH HIM.

5. MESSAGE 5 (MEDIUM)

- a. YOUR FIRST EXAMPLE IS QUITE AN EASY EXAMPLE, I THINK. IT IS EASY BECAUSE THIS SENTENCE USES ALL TEN MOST COMMON WORDS IN ENGLISH: 'I HAVE TO BE A GOOD STUDENT IN THAT CLASS IN THE ROOM OF THAT TEACHER.'

6. MESSAGE 6 (MEDIUM)

- a. FOR A UNIQUE AND SURPRISINGLY HARD CHALLENGE, CONSIDER MATING A LONG AND FULLY READABLE SERIES OF WORDS NEVER USING A SINGLE EXAMPLE OF OUR WELL-LOVED ENGLISH GLYPH WHICH OCCURS SECOND PLACE IN OVERALL FREQUENCY. IF I AM GENUINE, I WILL SAY MANY, MANY SECONDS HAVE PASSED WHILE I HAVE BEEN HERE PONDERING MATING

SUCH A WORT. DISCOVERING YOU CRACKED MY BRAINCHILD, HERE, IN A SMALLER NUMBER OF SECONDS WOULD GIVE ME NO SURPRISE.

7. MESSAGE 7 (MEDIUM)

- a. AS CREPTOGRAPHE TASKS GO, EOU MIGHT ACTUALLE CALL THIS A BIT HARD. AS IT TURNS OUT, I CAN GO A LONG WAE WITHOUT USING ANE OF THAT GLEPH THAT TRADITIONALLE FOLLOWS 'D' AT ALL. ISN'T THAT SURPRISING? I FOUND THIS SURPRISING, ANEWAE! AN AUTHOR WHO ALSO FOUND THIS SURPRISING, LONG AGO, ACTUALLE LOST MANE MONTHS WRITING A BOOK - A FULL FICTIONAL STORE - WITHOUT THAT GLEPH AT ALL. AMAYING, RIGHT?

8. MESSAGE 8 (MEDIUM)

- a. ICALLOURWORLDMLATLANDNOTFECAUSEWECALLITSOFTTODAKEITSNATURECLEA ERTYOUBYHAPPYREADERSWHOAREPRIVILEGEDTOLIVEINSPACEIBAGINEAVASTSHEETOMPAPERONWHICHSTRAIGHTLINESTRIANGLESSQU RESPENTAGONSHEXAGONSANDOTHERMIGURESINSTEADOMREBAININGMIXEDINTHEIRPLACESBOVEMREELYAFOUTONORINTHESURMA EFUTWITHOUTTHEPOWEROMRISINGAFOVEORSINKINGFELOWITVERYBUCHLIKESHADOWSONLYHARDWITHLUBINOUSEDGESANDYOUWILLTENHAVEAPRETTYCORRECTNOTIONOMBYCOUNTRYANDCOUNTRYBENALASAMEWYEARSAGOISHOULDHAVESAIDBYUNIVERSEFUTNOWBYBIND ASFEENOPENEDTOHIGHERVEWSOMTHINGS

9. MESSAGE 9 (HARD)

- a. I HAVE ENRODED THIS CESSAGE, AND ENRODED IT WELL, FOM IT RONTAINS THE SERMET OF THE UNIVEMSE! NO MEALLY, IT DOES! YOU DON'T BELIEVE CE? WHY WOULD YOU NOT BELIEVE THAT THIS PEMFERTLY RMOCULENT SERMET TEXT RONTAINS THE BE ALL, END ALL, GMANDEST SERMET OF ALL THE ROSCOS? NOW I FEEL DISMESPERTED! HAVE YOU DISROVEMED YOUM OWN BETTEM ULTICATE TMUTH OF EVEMYTHING? I DIDN'T THINK SO. SO WHY AME YOU GETTING ALL UPPITY AT CE? HONESTLY. NO ONE HAS ANY CANNEMS THESE DAYS. ...WHAT'S THAT? YOU WANT CE TO TELL YOU THE SERMET? NOT AFTEM THIS KIND OF DISMESPERT! GOODNESS GMARIOUS CE. BARK WHEN I WAS A YOUTH I WAS NOT SO RALLOUS. WHEN SOCEONE WELL MESPERTED AND ICPOMTANT TOLD CE THAT THEY HAD SOCETHING WOMTH TELLING CE, I JUST LISTENED! I DIDN'T DOUBT THEC! SO MUDE, HONESTLY. JUST UNARREPTABLE.