EM-624 Informatics for Engineering Management

EX-07 Comparing Text

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Code Interpretation:

The controversial topic which I choose is Space Colonization where I collected text from procon.org and saved all the pros in one txt file & all the cons in another txt file for the following topic. In my script initially I opened both the text files with encodings, post that I changes all the words to lower case and sorted out the words which are mentioned in the stop file provided post sorting, I removed all the unnecessary characters and words that are less than 3 in length. After this, I processed the file to sort out most frequently used words in both the text files. Then I tokenized the files and used the sentiment analyzer provided by professor in modules to analyze the sentiment behind the text files where the output states that the Pro file is rated as 20.3% positive, 9.3% Negative and 70.4% Neutral whereas the Con file is rated as 9.5% positive, 13.4% Negative and 77.1% Neutral. Post this sentimental analysis, I calculated the 5 most frequently used words in both the files and extracted the Bigrams from cleaned files from unnecessary words and completed the extraction of Bigrams. Post Bigrams, I used the WordCloud package in creating word cloud images where the image is visual representation of data.

Actual Result:

The sentiment behind cleaned PRO file of Space Colonization:

The pro text file was rated 20.3% Positive 9.3% Negative & 70.4% Neutral

The sentiment behind the cleaned CON file of Space Colonization :

The con text is rated as 9.5% Positive 13.4% Negative & 77.1% Neutral

The 5 most frequent words in the PRO text file are: [('have', 12), ('would', 10), ('’', 8), ('will', 8), ('earth', 8)]

The following are the bigrams extracted from the cleaned PRO text:

[('\ufeffhumans', 'have'), ('have', 'right'), ('right', 'moral'), ('moral', 'duty'), ('duty', 'save'), ('save', 'species'), ('species', 'suffering'), ('suffering', 'colonizing'), ('colonizing', 'method'), ('method', 'doing'), ('doing', 'elon'), ('elon', 'founder'), ('founder', 'think'), ('think', 'strong'), ('strong', 'humanitarian'), ('humanitarian', 'argument'), ('argument', 'making'), ('making', 'life'), ('life', 'order'), ('order', 'safeguard'), ('safeguard', 'existence'), ('existence', 'humanity'), ('humanity', 'event'), ('event', 'something'), ('something', 'catastrophic'), ('catastrophic', 'were'), ('were', 'which'), ('which', 'case'), ('case', 'being'), ('being', 'poor'), ('poor', 'having'), ('having', 'disease'), ('disease', 'would'), ('would', 'because'), ('because', 'humanity'), ('humanity', 'would'), ('would', 'would'), ('would', '‘'), ('‘', 'good'), ('good', 'problems'), ('problems', 'poverty'), ('poverty', 'disease'), ('disease', 'have'), ('have', 'been'), ('been', 'news'), ('news', 'aren'), ('aren', '’'), ('’', 't'), ('t', 'think'), ('think', 'have'), ('have', 'duty'), ('duty', 'maintain'), ('maintain', 'light'), ('light', 'make'), ('make', 'sure'), ('sure', 'continues'), ('continues', 'into'), ('into', 'according'), ('according', 'some'), ('some', 'only'), ('only', 'beings'), ('beings', 'capable'), ('capable', 'preserving'), ('preserving', 'humanity'), ('humanity', 'highest'), ('highest', 'moral'), ('moral', 'brian'), ('brian', 'patrick'), ('patrick', 'director'), ('director', 'technology'), ('technology', 'ethics'), ('ethics', 'markkula'), ('markkula', 'center'), ('center', 'applied'), ('applied', 'ethics'), ('ethics', 'santa'), ('santa', 'clara'), ('clara', '“'), ('“', 'because'), ('because', 'settlement'), ('settlement', 'gives'), ('gives', 'humankind'), ('humankind', 'opportunity'), ('opportunity', 'significantly'), ('significantly', 'raise'), ('raise', 'chances'), ('chances', 'survival'), ('survival', 'therefore'), ('therefore', 'moral'), ('moral', 'imperative'), ('imperative', 'settle'), ('settle', 'quickly'), ('quickly', 'some'), ('some', 'including'), ('including', 'gonzalo'), ('gonzalo', 'interdisciplinary'), ('interdisciplinary', 'professor'), ('professor', 'emeritus'), ('emeritus', 'lawrence'), ('lawrence', 'technological'), ('technological', 'believe'), ('believe', 'colonizing'), ('colonizing', 'will'), ('will', 'increase'), ('increase', 'clean'), ('clean', 'energy'), ('energy', 'provide'), ('provide', 'access'), ('access', 'solar'), ('solar', 'system'), ('system', '’'), ('’', 's'), ('s', 'increase'), ('increase', 'knowledge'), ('knowledge', 'benefits'), ('benefits', 'humanity'), ('humanity', 'created'), ('created', 'resources'), ('resources', 'knowledge'), ('knowledge', '“'), ('“', 'create'), ('create', 'moral'), ('moral', 'obligation'), ('obligation', 'colonize'), ('colonize', 'sheri'), ('sheri', 'associate'), ('associate', 'professor'), ('professor', 'english'), ('english', 'bowling'), ('bowling', 'green'), ('green', 'state'), ('state', 'argues'), ('argues', 'moral'), ('moral', 'imperative'), ('imperative', 'goes'), ('goes', 'even'), ('even', 'further'), ('further', 'than'), ('than', 'simple'), ('simple', 'have'), ('have', 'moral'), ('moral', 'obligation'), ('obligation', 'colonize'), ('colonize', 'actively'), ('actively', 'unthink'), ('unthink', 'systems'), ('systems', 'oppression'), ('oppression', 'know'), ('know', 'spread'), ('spread', 'ourselves'), ('ourselves', 'without'), ('without', 'thought'), ('thought', 'care'), ('care', 'would'), ('would', 'probably'), ('probably', 'result'), ('result', 'more'), ('more', 'spiraling'), ('spiraling', 'toward'), ('toward', 'global'), ('global', 'warming'), ('warming', 'settlements'), ('settlements', 'filled'), ('filled', 'with'), ('with', 'social'), ('social', 'colonization'), ('colonization', 'next'), ('next', 'logical'), ('logical', 'step'), ('step', 'exploration'), ('exploration', 'human'), ('human', 'fred'), ('fred', 'president'), ('president', 'transportation'), ('transportation', '“'), ('“', 'i'), ('i', '’'), ('’', 'll'), ('ll', 'assert'), ('assert', 'fundamental'), ('fundamental', 'truth'), ('truth', 'repeatedly'), ('repeatedly', 'borne'), ('borne', 'history'), ('history', 'civilizations'), ('civilizations', 'less'), ('less', 'likely'), ('likely', 'turn'), ('turn', 'more'), ('more', 'likely'), ('likely', 'expend'), ('expend', 'their'), ('their', 'fecundity'), ('fecundity', 'growing'), ('growing', 'conducting'), ('conducting', 'important'), ('important', 'research'), ('research', 'creating'), ('creating', 'wealth'), ('wealth', 'their'), ('their', 'civilization'), ('civilization', 'turns'), ('turns', 'away'), ('away', 'discovery'), ('discovery', 'growth'), ('growth', 'kennedy'), ('kennedy', 'pointed'), ('pointed', 'while'), ('while', 'still'), ('still', 'have'), ('have', 'problems'), ('problems', 'resolve'), ('resolve', 'earth'), ('earth', 'including'), ('including', 'civil'), ('civil', 'rights'), ('rights', 'violations'), ('violations', 'wealth'), ('wealth', '“'), ('“', 'forgoing'), ('forgoing', 'opportunities'), ('opportunities', 'expand'), ('expand', 'presence'), ('presence', 'into'), ('into', 'cosmos'), ('cosmos', 'achieve'), ('achieve', 'better'), ('better', 'outcomes'), ('outcomes', 'here'), ('here', 'home'), ('home', 'hasn'), ('hasn', '’'), ('’', 't'), ('t', 'eliminated'), ('eliminated', 'these'), ('these', 'shouldn'), ('shouldn', '’'), ('’', 't'), ('t', 'avoid'), ('avoid', 'exploring'), ('exploring', 'based'), ('based', 'false'), ('false', 'dichotomy'), ('dichotomy', 'fixing'), ('fixing', 'earthly'), ('earthly', 'problems'), ('problems', 'species'), ('species', 'jeff'), ('jeff', 'founder'), ('founder', 'traveled'), ('traveled', 'asserted'), ('asserted', 'exploring'), ('exploring', 'would'), ('would', 'result'), ('result', 'expanded'), ('expanded', 'human'), ('human', '“'), ('“', 'the'), ('the', 'solar'), ('solar', 'system'), ('system', 'easily'), ('easily', 'support'), ('support', 'trillion'), ('trillion', 'trillion'), ('trillion', 'would'), ('would', 'have'), ('have', 'thousand'), ('thousand', 'einsteins'), ('einsteins', 'thousand'), ('thousand', 'mozarts'), ('mozarts', 'practical'), ('practical', 'resources'), ('resources', 'solar'), ('solar', 'power'), ('power', 'unlimited'), ('unlimited', 'practical'), ('practical', 'connected'), ('connected', 'exploration'), ('exploration', 'growth'), ('growth', 'human'), ('human', 'elon'), ('elon', 'musk'), ('musk', '“'), ('“', 'it'), ('it', '’'), ('’', 's'), ('s', 'obvious'), ('obvious', 'deeply'), ('deeply', 'ingrained'), ('ingrained', 'american'), ('american', 'psyche…'), ('psyche…', 'spacex'), ('spacex', 'only'), ('only', 'between'), ('between', 'company'), ('company', '’'), ('’', 's'), ('s', 'lifespan'), ('lifespan', 'will'), ('will', 'have'), ('have', 'have'), ('have', 'linear'), ('linear', 'improvement'), ('improvement', 'opposed'), ('opposed', 'then'), ('then', 'should'), ('should', 'have'), ('have', 'significant'), ('significant', 'base'), ('base', 'perhaps'), ('perhaps', 'with'), ('with', 'thousands'), ('thousands', 'tens'), ('tens', 'thousands'), ('thousands', 'technological'), ('technological', 'advancement'), ('advancement', 'into'), ('into', 'exist'), ('exist', 'alongside'), ('alongside', 'conservation'), ('conservation', 'efforts'), ('efforts', 'while'), ('while', 'earth'), ('earth', 'experiencing'), ('experiencing', 'devastating'), ('devastating', 'climate'), ('climate', 'change'), ('change', 'effects'), ('effects', 'should'), ('should', 'earth'), ('earth', 'will'), ('will', 'habitable'), ('habitable', 'least'), ('least', 'million'), ('million', 'over'), ('over', 'billion'), ('billion', 'based'), ('based', 'current'), ('current', 'predictive'), ('predictive', 'have'), ('have', 'time'), ('time', 'explore'), ('explore', 'colonize'), ('colonize', 'same'), ('same', 'time'), ('time', 'mend'), ('mend', 'effects'), ('effects', 'climate'), ('climate', 'change'), ('change', 'brian'), ('brian', 'patrick'), ('patrick', 'green'), ('green', 'have'), ('have', 'realize'), ('realize', 'solving'), ('solving', 'earth'), ('earth', '’'), ('’', 's'), ('s', 'environmental'), ('environmental', 'problems'), ('problems', 'extremely'), ('extremely', 'difficult'), ('difficult', 'will'), ('will', 'take'), ('take', 'very'), ('very', 'long'), ('long', 'this'), ('this', 'while'), ('while', 'also'), ('also', 'pursuing'), ('pursuing', 'jeff'), ('jeff', 'bezos'), ('bezos', 'suggested'), ('suggested', 'move'), ('move', 'heavy'), ('heavy', 'industry'), ('industry', 'earth'), ('earth', 'then'), ('then', 'zone'), ('zone', 'earth'), ('earth', 'residences'), ('residences', 'light'), ('light', 'industry'), ('industry', 'doing'), ('doing', 'could'), ('could', 'reverse'), ('reverse', 'some'), ('some', 'effects'), ('effects', 'climate'), ('climate', 'change'), ('change', 'while'), ('while', 'colonizing'), ('colonizing', 'munevar'), ('munevar', 'also'), ('also', 'suggested'), ('suggested', 'something'), ('something', 'similar'), ('similar', 'more'), ('more', 'shorter'), ('shorter', 'strong'), ('strong', 'human'), ('human', 'presence'), ('presence', 'throughout'), ('throughout', 'solar'), ('solar', 'system'), ('system', 'will'), ('will', 'able'), ('able', 'prevent'), ('prevent', 'catastrophes'), ('catastrophes', 'earth'), ('earth', 'deflecting'), ('deflecting', 'asteroids'), ('asteroids', 'collision'), ('collision', 'course'), ('course', 'with'), ('with', 'this'), ('this', 'would'), ('would', 'also'), ('also', 'help'), ('help', 'preserve'), ('preserve', 'rest'), ('rest', 'terrestrial'), ('terrestrial', 'life'), ('life', 'presumably'), ('presumably', 'something'), ('something', 'critics'), ('critics', 'would'), ('would', 'approve'), ('approve', 'should'), ('should', 'able'), ('able', 'construct'), ('construct', 'colonies…'), ('colonies…', 'free'), ('free', 'rather'), ('rather', 'than'), ('than', 'planet'), ('planet', 'which'), ('which', 'could'), ('could', 'house'), ('house', 'these'), ('these', 'would'), ('would', 'positioned'), ('positioned', 'construct'), ('construct', 'massive'), ('massive', 'solar'), ('solar', 'power'), ('power', 'satellites'), ('satellites', 'provide'), ('provide', 'clean'), ('clean', 'power'), ('power', 'well'), ('well', 'industries'), ('industries', 'earth'), ('earth', 'create'), ('create', 'much'), ('much', 'environmental'), ('environmental', 'messing'), ('messing', 'environments'), ('environments', 'exist'), ('exist', 'would'), ('would', 'creating'), ('creating', 'with'), ('with', 'extraordinary'), ('extraordinary', 'attention'), ('attention', 'environmental'), ('environmental', 'ecologist'), ('ecologist', 'save'), ('save', 'have'), ('have', 'mascaro'), ('mascaro', 'argues'), ('argues', 'expanding'), ('expanding', 'technology'), ('technology', 'mars'), ('mars', 'will'), ('will', 'help'), ('help', 'solve'), ('solve', 'problems'), ('problems', '“'), ('“', 'the'), ('the', 'challenge'), ('challenge', 'colonising'), ('colonising', 'mars'), ('mars', 'shares'), ('shares', 'remarkable'), ('remarkable', 'with'), ('with', 'challenges'), ('challenges', 'face'), ('face', 'here'), ('here', 'living'), ('living', 'mars'), ('mars', 'will'), ('will', 'require'), ('require', 'mastery'), ('mastery', 'recycling'), ('recycling', 'matter'), ('matter', 'producing'), ('producing', 'food'), ('food', 'barren'), ('barren', 'arid'), ('arid', 'generating'), ('generating', 'nuclear'), ('nuclear', 'solar'), ('solar', 'building'), ('building', 'advanced'), ('advanced', 'batteries'), ('batteries', 'extracting'), ('extracting', 'storing'), ('storing', 'carbon'), ('carbon', 'atmospheric'), ('atmospheric', 'carbon'), ('carbon', 'dioxide'), ('dioxide', 'doing'), ('doing', 'thinkers'), ('thinkers', 'explorers'), ('explorers', 'decide'), ('decide', 'mars'), ('mars', 'fuel'), ('fuel', 'unprecedented'), ('unprecedented', 'lateral'), ('lateral', 'innovations'), ('innovations', 'will'), ('will', 'solve'), ('solve', 'problems')]

The 5 most frequent words in the CON text file are: [('have', 11), ('mars', 9), ('would', 8), ('which', 7), ('planet', 5)]

The following are the bigrams extracted from the cleaned CON text:

[('living', 'pure'), ('pure', 'science'), ('science', 'briony'), ('briony', 'assistant'), ('assistant', 'professor'), ('professor', 'planetary'), ('planetary', 'science'), ('science', 'purdue'), ('purdue', 'explained'), ('explained', 'terraforming'), ('terraforming', 'mars'), ('mars', 'beyond'), ('beyond', 'kind'), ('kind', 'technology'), ('technology', 'were'), ('were', 'going'), ('going', 'have'), ('have', 'time'), ('time', 'widely'), ('widely', 'promoted'), ('promoted', 'mars'), ('mars', 'needs'), ('needs', 'first'), ('first', 'warmed'), ('warmed', 'closer'), ('closer', 'earths'), ('earths', 'average'), ('average', 'temperature'), ('temperature', 'which'), ('which', 'will'), ('will', 'take'), ('take', 'approximately'), ('approximately', 'then'), ('then', 'planet'), ('planet', 'must'), ('must', 'made'), ('made', 'produce'), ('produce', 'oxygen'), ('oxygen', 'other'), ('other', 'mammals'), ('mammals', 'which'), ('which', 'will'), ('will', 'take'), ('take', 'about'), ('about', 'those'), ('those', 'steps'), ('steps', 'only'), ('only', 'taken'), ('taken', 'once'), ('once', 'mars'), ('mars', 'thoroughly'), ('thoroughly', 'investigated'), ('investigated', 'carbon'), ('carbon', 'nasa'), ('nasa', 'study'), ('study', 'concluded'), ('concluded', 'based'), ('based', 'levels'), ('levels', 'found'), ('found', 'above'), ('above', 'plan'), ('plan', 'lead'), ('lead', 'author'), ('author', 'bruce'), ('bruce', 'professor'), ('professor', 'geological'), ('geological', 'sciences'), ('sciences', 'university'), ('university', 'colorado'), ('colorado', 'terraforming'), ('terraforming', 'mars'), ('mars', 'possible'), ('possible', 'using'), ('using', 'workable'), ('workable', 'solution'), ('solution', 'were'), ('were', 'found'), ('found', 'project'), ('project', 'magnitude'), ('magnitude', 'would'), ('would', 'cost'), ('cost', 'perhaps'), ('perhaps', 'billionaire'), ('billionaire', 'elon'), ('elon', 'musk'), ('musk', 'explained'), ('explained', 'spacex'), ('spacex', 'mars'), ('mars', 'colonization'), ('colonization', 'project'), ('project', 'would'), ('would', 'need'), ('need', 'million'), ('million', 'people'), ('people', 'each'), ('each', 'just'), ('just', 'move'), ('move', 'colonize'), ('colonize', 'which'), ('which', 'doesnt'), ('doesnt', 'costs'), ('costs', 'incurred'), ('incurred', 'before'), ('before', 'left'), ('left', 'returning'), ('returning', 'would'), ('would', 'have'), ('have', 'cost'), ('cost', 'estimated'), ('estimated', 'billion'), ('billion', 'billion'), ('billion', 'almost'), ('almost', 'times'), ('times', 'nasas'), ('nasas', 'entire'), ('entire', 'person'), ('person', 'foot'), ('foot', 'station'), ('station', 'been'), ('been', 'built'), ('built', 'another'), ('another', 'planet'), ('planet', 'natural'), ('natural', 'linda'), ('linda', 'research'), ('research', 'professor'), ('professor', 'george'), ('george', 'washington'), ('washington', 'life'), ('life', 'earth'), ('earth', 'evolved'), ('evolved', 'live'), ('live', 'earth'), ('earth', 'conditions'), ('conditions', 'cant'), ('cant', 'figure'), ('figure', 'adapt'), ('adapt', 'changing'), ('changing', 'conditions'), ('conditions', 'earth'), ('earth', 'then'), ('then', 'cant'), ('cant', 'could'), ('could', 'figure'), ('figure', 'adapt'), ('adapt', 'totally'), ('totally', 'alien'), ('alien', 'have'), ('have', 'made'), ('made', 'mess'), ('mess', 'should'), ('should', 'clean'), ('clean', 'instead'), ('instead', 'destroying'), ('destroying', 'another'), ('another', 'have'), ('have', 'ability'), ('ability', 'transform'), ('transform', 'uninhabitable'), ('uninhabitable', 'other'), ('other', 'place'), ('place', 'into'), ('into', 'appealing'), ('appealing', 'home'), ('home', 'then'), ('then', 'surely'), ('surely', 'have'), ('have', 'ability'), ('ability', 'problems'), ('problems', 'weve'), ('weve', 'created'), ('created', 'lori'), ('lori', 'founder'), ('founder', 'executive'), ('executive', 'director'), ('director', 'kimmela'), ('kimmela', 'center'), ('center', 'animal'), ('animal', 'capable'), ('capable', 'enacting'), ('enacting', 'successful'), ('successful', 'colonization'), ('colonization', 'another'), ('another', 'fact'), ('fact', 'have'), ('have', 'destroyed'), ('destroyed', 'home'), ('home', 'planet'), ('planet', 'isprima'), ('isprima', 'facieevidence'), ('facieevidence', 'this'), ('this', 'sheer'), ('sheer', 'hubris'), ('hubris', 'even'), ('even', 'consider'), ('consider', 'question'), ('question', 'whether'), ('whether', 'should'), ('should', 'deciding'), ('deciding', 'which'), ('which', 'movie'), ('movie', 'this'), ('this', 'weekend'), ('weekend', 'because'), ('because', 'really'), ('really', 'position'), ('position', 'make'), ('make', 'choice'), ('choice', 'objective'), ('objective', 'person'), ('person', 'would'), ('would', 'hire'), ('hire', 'humanity'), ('humanity', 'colonize'), ('colonize', 'virgin'), ('virgin', 'given'), ('given', 'abysmal'), ('abysmal', 'past'), ('past', 'performance'), ('performance', 'caring'), ('caring', 'earths'), ('earths', 'ecosystem'), ('ecosystem', 'climate'), ('climate', 'mass'), ('mass', 'some'), ('some', 'assert'), ('assert', 'leaving'), ('leaving', 'earth'), ('earth', 'shambles'), ('shambles', 'proves'), ('proves', 'ready'), ('ready', 'colonize'), ('colonize', 'terms'), ('terms', 'moral'), ('moral', 'regardless'), ('regardless', 'technological'), ('technological', 'john'), ('john', 'professor'), ('professor', 'religious'), ('religious', 'studies'), ('studies', 'university'), ('university', 'texas'), ('texas', 'colonization'), ('colonization', 'odor'), ('odor', 'running'), ('running', 'away'), ('away', 'problems'), ('problems', 'weve'), ('weve', 'created'), ('created', 'will'), ('will', 'simply'), ('simply', 'bring'), ('bring', 'those'), ('those', 'problems'), ('problems', 'with'), ('with', 'need'), ('need', 'major'), ('major', 'change'), ('change', 'think'), ('think', 'about'), ('about', 'means'), ('means', 'humanwe'), ('humanwe', 'need'), ('need', 'stop'), ('stop', 'seeing'), ('seeing', 'species'), ('species', 'special'), ('special', 'start'), ('start', 'seeing'), ('seeing', 'part'), ('part', 'collection'), ('collection', 'long'), ('long', 'bring'), ('bring', 'human'), ('human', 'exceptionalism'), ('exceptionalism', 'with'), ('with', 'other'), ('other', 'doomed'), ('doomed', 'repeat'), ('repeat', 'same'), ('same', 'mistakes'), ('mistakes', 'have'), ('have', 'made'), ('made', 'inhospitable'), ('inhospitable', 'life'), ('life', 'even'), ('even', 'would'), ('would', 'novelist'), ('novelist', 'andy'), ('andy', 'weir'), ('weir', 'problem'), ('problem', 'still'), ('still', 'dont'), ('dont', 'want'), ('want', 'send'), ('send', 'want'), ('want', 'send'), ('send', 'soft'), ('soft', 'squishy'), ('squishy', 'they'), ('they', 'robots'), ('robots', 'hard'), ('hard', 'nobody'), ('nobody', 'gets'), ('gets', 'upset'), ('upset', 'when'), ('when', 'they'), ('they', 'bioethicist'), ('bioethicist', 'george'), ('george', 'dvorsky'), ('dvorsky', 'summarized'), ('summarized', 'hostile'), ('hostile', 'nature'), ('nature', 'planet'), ('planet', 'dead'), ('dead', 'with'), ('with', 'atmosphere'), ('atmosphere', 'about'), ('about', 'times'), ('times', 'thinner'), ('thinner', 'than'), ('than', 'paltry'), ('paltry', 'amount'), ('amount', 'does'), ('does', 'exist'), ('exist', 'mars'), ('mars', 'primarily'), ('primarily', 'composed'), ('composed', 'noxious'), ('noxious', 'carbon'), ('carbon', 'which'), ('which', 'does'), ('does', 'little'), ('little', 'protect'), ('protect', 'surface'), ('surface', 'suns'), ('suns', 'harmful'), ('harmful', 'pressure'), ('pressure', 'mars'), ('mars', 'very'), ('very', 'only'), ('only', 'about'), ('about', 'percent'), ('percent', 'might'), ('might', 'well'), ('well', 'exposed'), ('exposed', 'vacuum'), ('vacuum', 'resulting'), ('resulting', 'severe'), ('severe', 'form'), ('form', 'bendsincluding'), ('bendsincluding', 'ruptured'), ('ruptured', 'dangerously'), ('dangerously', 'swollen'), ('swollen', 'skin'), ('skin', 'body'), ('body', 'ultimately'), ('ultimately', 'thin'), ('thin', 'atmosphere'), ('atmosphere', 'also'), ('also', 'means'), ('means', 'heat'), ('heat', 'can'), ('can', 'not'), ('not', 'retained'), ('retained', 'average'), ('average', 'temperature'), ('temperature', 'mars'), ('mars', 'degrees'), ('degrees', 'fahrenheit'), ('fahrenheit', 'degrees'), ('degrees', 'with'), ('with', 'temperatures'), ('temperatures', 'dropping'), ('dropping', 'degrees'), ('degrees', 'degrees'), ('degrees', 'lunar'), ('lunar', 'dust'), ('dust', 'made'), ('made', 'shards'), ('shards', 'silica'), ('silica', 'cuts'), ('cuts', 'dust'), ('dust', 'clung'), ('clung', 'suits'), ('suits', 'apollo'), ('apollo', 'scratching'), ('scratching', 'their'), ('their', 'visors'), ('visors', 'getting'), ('getting', 'their'), ('their', 'eyes'), ('eyes', 'which'), ('which', 'could'), ('could', 'result'), ('result', 'bronchitis'), ('bronchitis', 'radiation'), ('radiation', 'about'), ('about', 'times'), ('times', 'higher'), ('higher', 'than'), ('than', 'addition'), ('addition', 'other'), ('other', 'problems'), ('problems', 'colonizing'), ('colonizing', 'would'), ('would', 'cause'), ('cause', 'would'), ('would', 'have'), ('have', 'host'), ('host', 'illnesses'), ('illnesses', 'deal'), ('deal', 'with'), ('with', 'climate'), ('climate', 'differences'), ('differences', 'mars'), ('mars', 'radiation'), ('radiation', 'reproductive'), ('reproductive', 'problems'), ('problems', 'muscle'), ('muscle', 'bone'), ('bone', 'skin'), ('skin', 'cardiovascular'), ('cardiovascular', 'inability'), ('inability', 'high'), ('high', 'blood'), ('blood', 'immune'), ('immune', 'metabolic'), ('metabolic', 'visual'), ('visual', 'balance'), ('balance', 'sensorimotor'), ('sensorimotor', 'structural'), ('structural', 'changes'), ('changes', 'cognitive'), ('cognitive', 'altered'), ('altered', 'gene'), ('gene', 'among'), ('among', 'astronauts'), ('astronauts', 'have'), ('have', 'spent'), ('spent', 'just'), ('just', 'year'), ('year', 'have'), ('have', 'demonstrated'), ('demonstrated', 'irreversible'), ('irreversible', 'health'), ('health', 'havent'), ('havent', 'even'), ('even', 'attempted'), ('attempted', 'live'), ('live', 'antarctica'), ('antarctica', 'under'), ('under', 'earths'), ('earths', 'which'), ('which', 'have'), ('have', 'many'), ('many', 'fewer'), ('fewer', 'challenges'), ('challenges', 'human'), ('human', 'would'), ('would', 'want'), ('want', 'live'), ('live', 'planet'), ('planet', 'thats'), ('thats', 'likely'), ('likely', 'kill'), ('kill', 'fairly')]

Text

Description automatically generatedWordcloud for PRO file (1st) and CON file (2nd):Text

Description automatically generated

Process finished with exit code 0