Homework 3 Report

System	Rouge-1			Rouge-2			Rouge-L		
	P	R	F	P	R	F	P	R	F
Centroid	32.32%	42.316%	36.55%	7.406%	9.649%	8.360%	28.115%	36.804%	31.793%
DPP	39.296%	41.195%	40.203%	9.661%	10.119%	9.819%	30.586%	32.052%	31.286%
ICSISumm	39.239%	39.114%	38.161%	10.129%	9.540%	9.819%	39.500%	32.669%	33.544%
LexRank	32.409%	41.018%	36.155%	6.983%	8.338%	7.989%	28.552%	36.143%	31.854%
Submodular	38.752%	39.983%	39.346%	9.299%	9.571%	9.930%	33.581%	34.636%	34.090%

Environmental setup is based on Window 10. I followed the guideline which is on stackoverflow (https://stackoverflow.com/questions/47045436/how-to-install-the-python-package-pyrouge-on-microsoft-windows/47045437#47045437) which was suggested on our piazza. I used Python 3.8.11. It generates Rouge-1, Rouge-2, Rouge-3, Rouge-4, Rouge-L, Rouge-W-1.2, Rouge-S*, and Rouge-SU*.

```
s\Jihyung\AppData\Local\Temp\tmpvaxnvpsk\rouge_conf.xml
RESULTS FOR System_Summaries/Centroid/
--------------------------------------------
1 ROUGE-1 Average_R: 0.42316 (95%-conf.int. 0.40986 - 0.43757)
1 ROUGE-1 Average_P: 0.32320 (95%-conf.int. 0.31100 - 0.33587)
1 ROUGE-1 Average_F: 0.36550 (95%-conf.int. 0.35344 - 0.37807)
--------------------------------------------
1 ROUGE-2 Average_R: 0.09649 (95%-conf.int. 0.08668 - 0.10600)
1 ROUGE-2 Average_P: 0.07406 (95%-conf.int. 0.06614 - 0.08175)
1 ROUGE-2 Average_F: 0.08360 (95%-conf.int. 0.07473 - 0.09194)
--------------------------------------------
1 ROUGE-3 Average_R: 0.03336 (95%-conf.int. 0.02803 - 0.03889)
1 ROUGE-3 Average_P: 0.02582 (95%-conf.int. 0.02155 - 0.03041)
1 ROUGE-3 Average_F: 0.02905 (95%-conf.int. 0.02427 - 0.03405)
--------------------------------------------
1 ROUGE-4 Average_R: 0.01490 (95%-conf.int. 0.01128 - 0.01873)
1 ROUGE-4 Average_P: 0.01165 (95%-conf.int. 0.00875 - 0.01471)
1 ROUGE-4 Average_F: 0.01305 (95%-conf.int. 0.00986 - 0.01656)
--------------------------------------------
1 ROUGE-L Average_R: 0.36804 (95%-conf.int. 0.35454 - 0.38211)
1 ROUGE-L Average_P: 0.28115 (95%-conf.int. 0.26940 - 0.29359)
1 ROUGE-L Average_F: 0.31793 (95%-conf.int. 0.30585 - 0.33092)
--------------------------------------------
1 ROUGE-W-1.2 Average_R: 0.12718 (95%-conf.int. 0.12248 - 0.13215)
1 ROUGE-W-1.2 Average_P: 0.17390 (95%-conf.int. 0.16676 - 0.18146)
1 ROUGE-W-1.2 Average_F: 0.14650 (95%-conf.int. 0.14115 - 0.15254)
--------------------------------------------
1 ROUGE-S* Average_R: 0.15964 (95%-conf.int. 0.14914 - 0.17045)
1 ROUGE-S* Average_P: 0.09360 (95%-conf.int. 0.08667 - 0.10062)
1 ROUGE-S* Average_F: 0.11689 (95%-conf.int. 0.10901 - 0.12498)
```

```
s\Jihyung\AppData\Local\Temp\tmpuggnubc3\rouge_conf.xml
RESULTS FOR System_Summaries/DPP/
---------------------------------------------
1 ROUGE-1 Average_R: 0.41195 (95%-conf.int. 0.40179 - 0.42141)
1 ROUGE-1 Average_P: 0.39296 (95%-conf.int. 0.38128 - 0.40383)
1 ROUGE-1 Average_F: 0.40203 (95%-conf.int. 0.39125 - 0.41246)
---------------------------------------------
1 ROUGE-2 Average_R: 0.10117 (95%-conf.int. 0.09281 - 0.10986)
1 ROUGE-2 Average_P: 0.09661 (95%-conf.int. 0.08839 - 0.10495)
1 ROUGE-2 Average_F: 0.09879 (95%-conf.int. 0.09072 - 0.10733)
---------------------------------------------
1 ROUGE-3 Average_R: 0.03588 (95%-conf.int. 0.03088 - 0.04117)
1 ROUGE-3 Average_P: 0.03433 (95%-conf.int. 0.02943 - 0.03968)
1 ROUGE-3 Average_F: 0.03507 (95%-conf.int. 0.03005 - 0.04030)
---------------------------------------------
1 ROUGE-4 Average_R: 0.01666 (95%-conf.int. 0.01346 - 0.02013)
1 ROUGE-4 Average_P: 0.01597 (95%-conf.int. 0.01288 - 0.01932)
1 ROUGE-4 Average_F: 0.01629 (95%-conf.int. 0.01318 - 0.01974)
---------------------------------------------
1 ROUGE-L Average_R: 0.32052 (95%-conf.int. 0.31104 - 0.32989)
1 ROUGE-L Average_P: 0.30586 (95%-conf.int. 0.29529 - 0.31609)
1 ROUGE-L Average_F: 0.31286 (95%-conf.int. 0.30313 - 0.32227)
---------------------------------------------
1 ROUGE-W-1.2 Average_R: 0.11174 (95%-conf.int. 0.10822 - 0.11487)
1 ROUGE-W-1.2 Average_P: 0.19079 (95%-conf.int. 0.18414 - 0.19697)
1 ROUGE-W-1.2 Average_F: 0.14085 (95%-conf.int. 0.13632 - 0.14493)
---------------------------------------------
1 ROUGE-S* Average_R: 0.14624 (95%-conf.int. 0.13840 - 0.15352)
1 ROUGE-S* Average_P: 0.13362 (95%-conf.int. 0.12558 - 0.14104)
```

```
s\Jihyung\AppData\Local\Temp\tmpuybkarit\rouge_conf.xml
RESULTS FOR System_Summaries/ICSISumm/
---------------------------------------------
1 ROUGE-1 Average_R: 0.37174 (95%-conf.int. 0.36107 - 0.38238)
1 ROUGE-1 Average_P: 0.39239 (95%-conf.int. 0.38021 - 0.40442)
1 ROUGE-1 Average_F: 0.38161 (95%-conf.int. 0.37063 - 0.39309)
---------------------------------------------
1 ROUGE-2 Average_R: 0.09540 (95%-conf.int. 0.08654 - 0.10403)
1 ROUGE-2 Average_P: 0.10124 (95%-conf.int. 0.09147 - 0.11057)
1 ROUGE-2 Average_F: 0.09819 (95%-conf.int. 0.08894 - 0.10713)
---------------------------------------------
1 ROUGE-3 Average_R: 0.03527 (95%-conf.int. 0.03009 - 0.04030)
1 ROUGE-3 Average_P: 0.03748 (95%-conf.int. 0.03195 - 0.04274)
1 ROUGE-3 Average_F: 0.03633 (95%-conf.int. 0.03104 - 0.04153)
---------------------------------------------
1 ROUGE-4 Average_R: 0.01715 (95%-conf.int. 0.01399 - 0.02047)
1 ROUGE-4 Average_P: 0.01827 (95%-conf.int. 0.01489 - 0.02192)
1 ROUGE-4 Average_F: 0.01769 (95%-conf.int. 0.01442 - 0.02112)
---------------------------------------------
1 ROUGE-L Average_R: 0.32669 (95%-conf.int. 0.31712 - 0.33589)
1 ROUGE-L Average_P: 0.34500 (95%-conf.int. 0.33411 - 0.35606)
1 ROUGE-L Average_F: 0.33544 (95%-conf.int. 0.32552 - 0.34530)
---------------------------------------------
1 ROUGE-W-1.2 Average_R: 0.11502 (95%-conf.int. 0.11146 - 0.11852)
1 ROUGE-W-1.2 Average_P: 0.21726 (95%-conf.int. 0.21058 - 0.22441)
1 ROUGE-W-1.2 Average_F: 0.15033 (95%-conf.int. 0.14584 - 0.15495)
---------------------------------------------
1 ROUGE-S* Average_R: 0.11679 (95%-conf.int. 0.11003 - 0.12377)
1 ROUGE-S* Average_P: 0.13065 (95%-conf.int. 0.12250 - 0.13956)
1 ROUGE-S* Average_F: 0.12311 (95%-conf.int. 0.11573 - 0.13089)
```

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s\Jihyung\AppData\Local\Temp\tmp0_m6cm7w\rouge_conf.xml
RESULTS FOR System_Summaries/LexRank/
---------------------------------------------
1 ROUGE-1 Average_R: 0.41018 (95%-conf.int. 0.39472 - 0.42472)
1 ROUGE-1 Average_P: 0.32409 (95%-conf.int. 0.31131 - 0.33688)
1 ROUGE-1 Average_F: 0.36155 (95%-conf.int. 0.34799 - 0.37470)
---------------------------------------------
1 ROUGE-2 Average_R: 0.08838 (95%-conf.int. 0.08032 - 0.09841)
1 ROUGE-2 Average_P: 0.06983 (95%-conf.int. 0.06303 - 0.07762)
1 ROUGE-2 Average_F: 0.07789 (95%-conf.int. 0.07059 - 0.08660)
---------------------------------------------
1 ROUGE-3 Average_R: 0.02627 (95%-conf.int. 0.02208 - 0.03121)
1 ROUGE-3 Average_P: 0.02069 (95%-conf.int. 0.01726 - 0.02457)
1 ROUGE-3 Average_F: 0.02311 (95%-conf.int. 0.01940 - 0.02744)
---------------------------------------------
1 ROUGE-4 Average_R: 0.00975 (95%-conf.int. 0.00714 - 0.01285)
1 ROUGE-4 Average_P: 0.00770 (95%-conf.int. 0.00560 - 0.01018)
1 ROUGE-4 Average_F: 0.00859 (95%-conf.int. 0.00628 - 0.01136)
---------------------------------------------
1 ROUGE-L Average_R: 0.36143 (95%-conf.int. 0.34726 - 0.37458)
1 ROUGE-L Average_P: 0.28552 (95%-conf.int. 0.27405 - 0.29652)
1 ROUGE-L Average_F: 0.31854 (95%-conf.int. 0.30638 - 0.33025)
---------------------------------------------
1 ROUGE-W-1.2 Average_R: 0.12477 (95%-conf.int. 0.11980 - 0.12946)
1 ROUGE-W-1.2 Average_P: 0.17635 (95%-conf.int. 0.16947 - 0.18339)
1 ROUGE-W-1.2 Average_F: 0.14587 (95%-conf.int. 0.14039 - 0.15144)
---------------------------------------------
1 ROUGE-S* Average_R: 0.15119 (95%-conf.int. 0.13988 - 0.16261)
1 ROUGE-S* Average_P: 0.09440 (95%-conf.int. 0.08682 - 0.10209)
1 ROUGE-S* Average_F: 0.11556 (95%-conf.int. 0.10668 - 0.12433)
```

```
RESULTS FOR System_Summaries/Submodular/
---------------------------------------------
1 ROUGE-1 Average_R: 0.39983 (95%-conf.int. 0.38816 - 0.41140)
1 ROUGE-1 Average_P: 0.38752 (95%-conf.int. 0.37436 - 0.39991)
1 ROUGE-1 Average_F: 0.39346 (95%-conf.int. 0.38105 - 0.40515)
---------------------------------------------
1 ROUGE-2 Average_R: 0.09571 (95%-conf.int. 0.08676 - 0.10493)
1 ROUGE-2 Average_P: 0.09299 (95%-conf.int. 0.08391 - 0.10205)
1 ROUGE-2 Average_F: 0.09430 (95%-conf.int. 0.08529 - 0.10340)
---------------------------------------------
1 ROUGE-3 Average_R: 0.03247 (95%-conf.int. 0.02746 - 0.03778)
1 ROUGE-3 Average_P: 0.03162 (95%-conf.int. 0.02661 - 0.03693)
1 ROUGE-3 Average_F: 0.03203 (95%-conf.int. 0.02703 - 0.03729)
---------------------------------------------
1 ROUGE-4 Average_R: 0.01427 (95%-conf.int. 0.01110 - 0.01808)
1 ROUGE-4 Average_P: 0.01392 (95%-conf.int. 0.01079 - 0.01763)
1 ROUGE-4 Average_F: 0.01409 (95%-conf.int. 0.01093 - 0.01785)
---------------------------------------------
1 ROUGE-L Average_R: 0.34636 (95%-conf.int. 0.33563 - 0.35660)
1 ROUGE-L Average_P: 0.33581 (95%-conf.int. 0.32372 - 0.34728)
1 ROUGE-L Average_F: 0.34090 (95%-conf.int. 0.32956 - 0.35191)
---------------------------------------------
1 ROUGE-W-1.2 Average_R: 0.11978 (95%-conf.int. 0.11587 - 0.12357)
1 ROUGE-W-1.2 Average_P: 0.20790 (95%-conf.int. 0.20043 - 0.21543)
1 ROUGE-W-1.2 Average_F: 0.15193 (95%-conf.int. 0.14684 - 0.15690)
---------------------------------------------
1 ROUGE-S* Average_R: 0.13880 (95%-conf.int. 0.13022 - 0.14694)
1 ROUGE-S* Average_P: 0.13092 (95%-conf.int. 0.12185 - 0.13961)
```