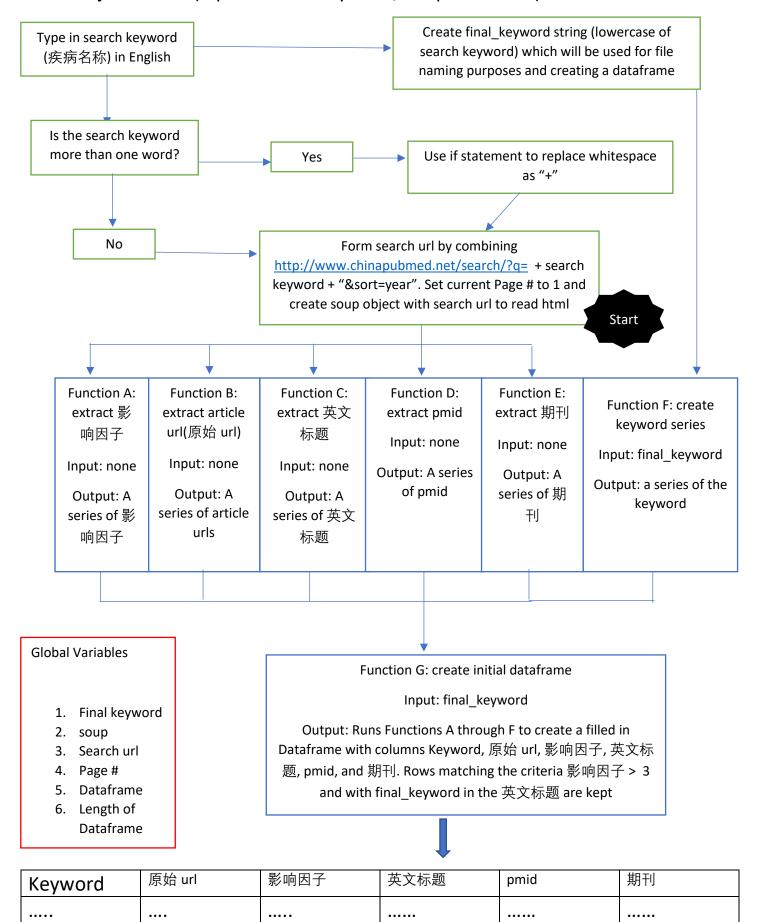
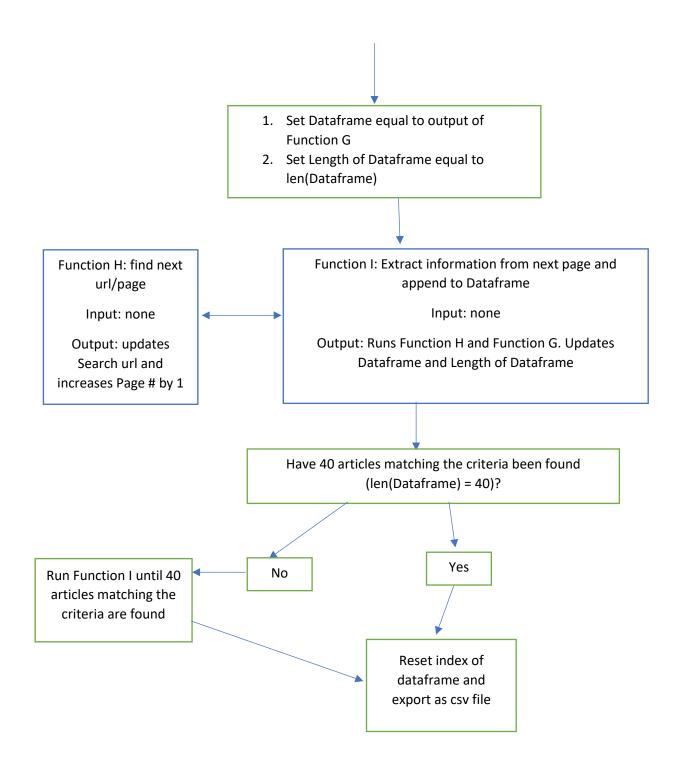
## 1. Project Part A (Input: search keyword; Output: csv file)





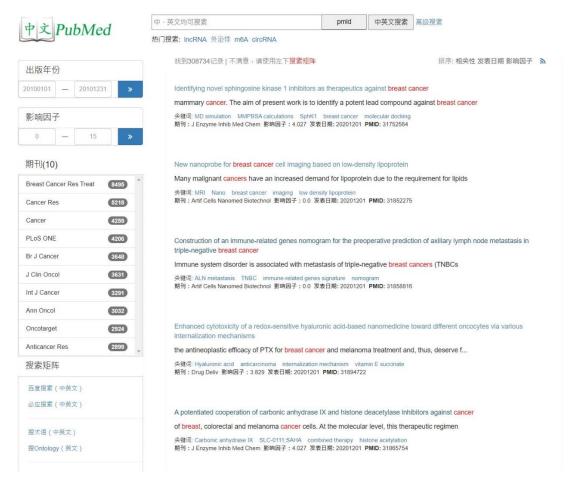
Language	IDE	Libraries used
Python	Python 3 Jupyter	1. Bs4
	Notebooks	2. Requests
		3. Pandas
		4. re

Note: Path of csv file is currently set to same folder in which the python 3 script is run. This may be adjusted accordingly.

## Test Run (Web Crawler Project Part A.ipynb)

# Search keyword = Breast cancer

## Initial Search url = <a href="http://www.chinapubmed.net/search/?q=Breast+cancer&sort=year">http://www.chinapubmed.net/search/?q=Breast+cancer&sort=year</a>





	В	C	D	E	F
1 Keyword	原始url	影响因子	英文标题	pmid	期刊
2 breast cancer	http://www.chinapubmed.net/31752564	4.027	Identifying novel sphingosine kinase 1 inhibitors as therapeutics against breast cancer	3175256	4 J Enzyme Inhib Med Chem
3 breast cancer	http://www.chinapubmed.net/32003229	3.829	Hydrous icaritin nanorods with excellent stability improves the in vitro and in vivo activity against breast cancer	3200322	9 Drug Deliv
4 breast cancer	http://www.chinapubmed.net/32308054	3.829	Novel nano-pomegranates based on astragalus polysaccharides for targeting ERα-positive breast cancer and multidrug resistance	3230805	4 Drug Deliv
5 breast cancer	http://www.chinapubmed.net/32489130	3.829	Preparation of hydroxy genkwanin nanosuspensions and their enhanced antitumor efficacy against breast cancer	3248913	0 Drug Deliv
6 breast cancer	http://www.chinapubmed.net/32533397	3.677	ASO Author Reflections: Breast Cancer Detection of Baseline Screening MRI in High-Risk Women Who Are Not in the Highest Risk Groups	3253339	7 Ann Surg Oncol
7 breast cancer	http://www.chinapubmed.net/32886273	3.6	Nomograms for prediction of overall and cancer-specific survival in young breast cancer	3288627	3 Breast Cancer Res Treat
8 breast cancer	http://www.chinapubmed.net/32886287	3.677	ASO Author Reflections: Immediate Lymphatic Reconstruction: A Proactive Approach to Breast Cancer-Related Lymphedema	3288628	7 Ann Surg Oncol
9 breast cancer	http://www.chinapubmed.net/32883651	4.187	Using Xigua Video as a Source of Information on Breast Cancer: Content Analysis	3288365	1 J Med Internet Res
10 breast cancer	http://www.chinapubmed.net/32884019	3.788	Cell-free DNA concentration in patients with clinical or mammographic suspicion of breast cancer	3288401	9 Sci Rep
11 breast cancer	http://www.chinapubmed.net/32883270	3.091	Patient and physician factors associated with Oncotype DX and adjuvant chemotherapy utilization for breast cancer patients in New Hampshire, 2010-2016	3288327	0 BMC Cancer
12 breast cancer	http://www.chinapubmed.net/32883235	3.091	The efficacy of etanercept as anti-breast cancer treatment is attenuated by residing macrophages	3288323	5 BMC Cancer
13 breast cancer	http://www.chinapubmed.net/32883233	3.091	Long non-coding RNA SNHG3 promotes breast cancer cell proliferation and metastasis by binding	3288323	3 BMC Cancer
14 breast cancer	http://www.chinapubmed.net/32885617	3.418	Intra-CSF topotecan in treatment of breast cancer patients with leptomeningeal metastases	3288561	7 Cancer Med
15 breast cancer	http://www.chinapubmed.net/32885226	11.397	Corrigendum: Mechanisms of Therapy Resistance in Patient-Derived Xenograft Models of BRCA1-Deficient Breast Cancer	3288522	6 J Natl Cancer Inst
16 breast cancer	http://www.chinapubmed.net/32880602	24.191	With Hormone Receptor-Positive, ERBB2-Negative Metastatic Breast Cancer: A Randomized Clinical Trial	3288060	2 JAMA Oncol
17 breast cancer	http://www.chinapubmed.net/32880825	3.403	The interaction between MALAT1 target, miR-143-3p, and RALGAPA2 is affected by functional SNP rs3827693 in breast cancer	3288082	5 Hum Cell
18 breast cancer	http://www.chinapubmed.net/32880442	13.984	Three-Dimensional Human Liver-Chip Emulating Premetastatic Niche Formation by Breast Cancer-Derived Extracellular Vesicles	3288044	2 ACS Nano
9 breast cancer	http://www.chinapubmed.net/32876911	3.6	treatment of HER2-positive early breast cancer (The NEOPETRA Study)	3287691	1 Breast Cancer Res Treat
0 breast cancer	http://www.chinapubmed.net/32875678	11.048	Efficient Polysulfide-Based Nanotheranostics for Triple-Negative Breast Cancer: Ratiometric	3287567	8 Small
1 breast cancer	http://www.chinapubmed.net/32876910	3.6	Risk factors for inflammatory and non-inflammatory breast cancer in North Africa	3287691	O Breast Cancer Res Treat
22 breast cancer	http://www.chinapubmed.net/32880016	3.6	Development and validation of prognostic gene signature for basal-like breast cancer and high-grade serous ovarian cancer	3288001	6 Breast Cancer Res Treat
3 breast cancer	http://www.chinapubmed.net/32544879	4.626	The impact of COVID-19 on and recommendations for breast cancer care: the Singapore experience	3254487	9 Endocr Relat Cancer
4 breast cancer	http://www.chinapubmed.net/32498898	4.916	Development of point-of-care nanobiosensors for breast cancers diagnosis	3249889	8 Talanta
5 breast cancer	http://www.chinapubmed.net/32883032	5.492	Targeting Signaling Pathways in Inflammatory Breast Cancer	3288303	2 Cancers (Basel)
6 breast cancer	http://www.chinapubmed.net/32873858	3.788	Compared DNA and RNA quality of breast cancer biobanking samples after long-term storage protocols in - 80 °C and liquid nitrogen	3287385	8 Sci Rep
7 breast cancer	http://www.chinapubmed.net/32880908	5.443	Maintaining breast cancer care in the face of COVID-19	3288090	8 Br J Surg
8 breast cancer	http://www.chinapubmed.net/32883002	4.132	CDK4/6 Inhibitors in Breast Cancer Treatment: Potential Interactions with Drug, Gene, and Pathophysiological Conditions	3288300	2 Int J Mol Sci
9 breast cancer	http://www.chinapubmed.net/32883003	5.492	Counteracting Chemoresistance with Metformin in Breast Cancers: Targeting Cancer Stem Cells	3288300	3 Cancers (Basel)
0 breast cancer	http://www.chinapubmed.net/32882980	5.492	CDK4/6 Inhibitors in Hormone Receptor-Positive Metastatic Breast Cancer: Current Practice and Knowledge	3288298	0 Cancers (Basel)
1 breast cancer	http://www.chinapubmed.net/32882850	4.132	Molecular Investigation on a Triple Negative Breast Cancer Xenograft Model Exposed to Proton Beams	3288285	0 Int J Mol Sci
2 breast cancer	http://www.chinapubmed.net/32555534	5.695	Distinct temporal trends in breast cancer incidence from 1997 to 2016 by molecular subtypes: a population-based study of Scottish cancer registry data	3255553	4 Br J Cancer
3 breast cancer	http://www.chinapubmed.net/32875480	3.6	African breast cancer patients with and without concurrent HIV infection	3287548	0 Breast Cancer Res Treat
4 breast cancer	http://www.chinapubmed.net/32870818	11.724	HIFs, angiogenesis, and metabolism: elusive enemies in breast cancer	3287081	8 J Clin Invest
5 breast cancer	http://www.chinapubmed.net/32875465	3.677	with or without Postmastectomy Radiation Therapy for Breast Cancer	3287546	5 Ann Surg Oncol
6 breast cancer	http://www.chinapubmed.net/32875404	3.833	Precision Medicine for Breast Cancer Utilizing Circulating Tumor DNA: It Is in the Blood	3287540	4 Curr Treat Options Oncol
7 breast cancer	http://www.chinapubmed.net/32873298	4.002	High expression of MKK3 is associated with worse clinical outcomes in African American breast cancer patients	3287329	8 J Transl Med
8 breast cancer	http://www.chinapubmed.net/32546834		A dynamic web-based decision aid to improve informed choice in organised breast cancer screening. A pragmatic randomised trial in Italy	3254683	4 Br J Cancer
39 breast cancer	http://www.chinapubmed.net/32882267		Effects of metformin on adipose-derived stromal cell (ADSC) - Breast cancer cell lines interaction		7 Life Sci
40 breast cancer	http://www.chinapubmed.net/32882354		The role of circulating tumor cells in breast cancer and implications for radiation treatment decisions	3288235	4 Int J Radiat Oncol Biol Phys
41 breast cancer	http://www.chinapubmed.net/32882276		The R251Q mutation of LSD1 promotes invasion and migration of luminal breast cancer cells		6 Int J Biol Macromol
42 breast cancer	http://www.chinapubmed.net/32882665		, revealing potential targets and new biomarkers for basal-like breast cancer prognosis		5 Int Immunopharmacol

2. Project Part B (Input: csv file, Output: csv file)

Language	IDE	Libraries used/to be used
Python	Python 3 Jupyter Notebooks	1. Bs4
		2. Requests
		3. Pandas
		4. Re
		5. Numpy

Note: Path of csv file is currently set to same folder in which the python 3 script is run. This may be adjusted accordingly.

#### Structure:

- 1. Create function to read csv file from Part A as dataframe1 and return dataframe1
- 2. Create functions to extract the following information
  - a. Function A: 关键词
  - b. Function A.2: 关键词当前网页的网址
  - c. Function B: 中文标题
  - d. Function C: 中文正文
  - e. Function D: 作者
  - f. Function D.2: 作者当前网页的网址
  - g. Function E: 英文正文
  - h. Function F: 发表日期
  - i. Function G: 官网
  - j. Function H: 免费下载链接
  - k. Function I: 全文下载链接
- 3. Create a function (J) to create and fill new columns in dataframe (new columns = 关键词,中文标题,中文正文,作者,英文正文,发表日期,官网,免费下载链接,全文下载链接)
- 4. Use appropriate functions from Project Part A to crawl through up to five pages of urls extracted from Functions A.2 and D.2 Create a new dataframe2 for this extracted information.
- 5. Repeat function J to extract information for missing columns for this new dataframe2.
- 6. Append dataframe2 to dataframe1 to make dataframe\_final. Reorganise order of columns if necessary. Reset index of dataframe\_final and export as csv. Desired format is as shown:

Keywor	原	关键	中	中	英文	作	英文	pm	期	影响	发表	官	免费	全文
d	始	词	文	文	标题	者	正文	id	刊	因子	日期	XX	下载	下载
	url		标	正									链接	链接
			题	文										