

#CLASSIFICATION : TRUE VS FALSE AVEC ENTITES_NOMMEES

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```
import sys
import pandas as pd
import numpy as np
import sklearn
from sklearn.preprocessing import LabelEncoder
from sklearn.metrics import accuracy_score, confusion_matrix,
classification_report, precision_recall_fscore_support as score
from sklearn.model_selection import train_test_split, KFold,
cross_val_score, GridSearchCV
from sklearn.linear_model import LogisticRegression
from sklearn.tree import DecisionTreeClassifier
from sklearn.neighbors import KNeighborsClassifier
from sklearn.naive_bayes import GaussianNB
from sklearn.svm import SVC
from sklearn.ensemble import RandomForestClassifier
from sklearn.feature_extraction.text import TfidfVectorizer
import nltk
from nltk.corpus import stopwords
from nltk.stem import PorterStemmer, WordNetLemmatizer
from nltk import word_tokenize
import re
import pickle
import string
import seaborn as sns
import matplotlib.pyplot as plt
from numpy import vstack
from torch.utils.data import Dataset, DataLoader
from torch.utils.data import random_split
from torch import Tensor
from torch.nn import Linear, ReLU, Sigmoid, Module, BCELoss
from torch.optim import SGD
from torch.nn.init import kaiming_uniform_, xavier_uniform_

kn= KNeighborsClassifier()
decTree=DecisionTreeClassifier()
gNB=GaussianNB()
svc=SVC()
rf=RandomForestClassifier()

import warnings
warnings.filterwarnings('ignore')

autorisation
```

```
drive.mount('/content/drive')
```

Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).

```
my_local_drive='/content/gdrive/My Drive/Colab Notebooks'
```

```
# Ajout du path pour les librairies, fonctions et données
```

```
sys.path.append(my_local_drive)
```

```
# Se positionner sur le répertoire associé
```

```
%cd $my_local_drive
```

```
%ls
```

```
%pwd
```

```
/content/gdrive/My Drive/Colab Notebooks
```

```
'Copie de bonFakeNEWS.ipynb'
```

```
'Copie de Copie de Projet ML FakeNEWS_TRUE FALSE_TEXT+TITRE.ipynb'
```

```
'Copie de ml_entiteesNommeesTest (1).ipynb'
```

```
'Copie de ml_entiteesNommeesTest.ipynb'
```

```
'Copie de Projet ML FakeNEWS (1).ipynb'
```

```
'Copie de Projet ML FakeNEWS.ipynb'
```

```
'Copie de Projet ML FakeNEWS_TRUE FALSE_TEXT+TITRE.ipynb'
```

```
'Copie de text_title en mm temps.ipynb'
```

```
'Copie de version2ml_entiteesNommeesTest.ipynb'
```

```
'Copie de Vrai_Faux.ipynb'
```

```
'copie_essai_title_text sur bachir.ipynb'
```

```
'essai_title_text.ipynb'
```

```
'Projet ML FakeNEWS_TRUE FALSE_TEXT_AVEC_ENTITES.ipynb'
```

```
'Projet ML FakeNEWS_TRUE FALSE_TITRE_AVEC_ENTITES.ipynb'
```

```
'Traitement sémantique'/
```

```
Vrai_Faux_avec_entites_nommées.ipynb
```

```
{"type": "string"}
```

La fonction qui sera utilisée pour les prétraitements: MyCleanText

- Mettre le texte en minuscule
- Se débarrasser des stopwords
- Se débarrasser des nombres
- Stemmatisation
- Lemmatisation ..

La fonction MyshowAllScores prend le y_test et le y_predict, affiche l'accuracy et le classification report avec la matrice de confusion.

```
#.....Fonction
```

```
MyCleanText .....
```

```
.....
```

```
# mettre en minuscule
```

```
#enlever les stopwords
```

```
#se debarrasser des nombres
```

```
#stemmatisation
#lemmatisation
#.....
.....
.....
```

```
nltk.download('wordnet')
nltk.download('stopwords')
nltk.download('punkt')
#liste des stopwords en anglais
stop_words = set(stopwords.words('english'))
```

```
def MyCleanText(X,
                 lowercase=False, #mettre en minuscule
                 removestopwords=False, #supprimer les stopwords
                 removedigit=False, #supprimer les nombres
                 getstemmer=False, #conserver la racine des termes
                 getlemmatisation=False #lemmatisation des termes
                 ):
    #conversion du texte d'entrée en chaîne de caractères
    sentence=str(X)
    #suppression des caractères spéciaux
    sentence = re.sub(r'^\w\s',' ', sentence)
    # suppression de tous les caractères uniques
    sentence = re.sub(r'\s+[a-zA-Z]\s+', ' ', sentence)
    # substitution des espaces multiples par un seul espace
    sentence = re.sub(r'\s+', ' ', sentence, flags=re.I)

    # decoupage en mots
    tokens = word_tokenize(sentence)
    if lowercase:
        tokens = [token.lower() for token in tokens]

    # suppression ponctuation
    table = str.maketrans('', '', string.punctuation)
    words = [token.translate(table) for token in tokens]

    # suppression des tokens non alphanumérique ou numérique
    words = [word for word in words if word.isalnum()]

    # suppression des tokens numérique
    if removedigit:
        words = [word for word in words if not word.isdigit()]

    # suppression des stopwords
    if removestopwords:
        words = [word for word in words if not word in stop_words]
```

```

# lemmatisation
if getlemmatisation:
    lemmatizer=WordNetLemmatizer()
    words = [lemmatizer.lemmatize(word) for word in words]

# racinisation
if getstemmer:
    ps = PorterStemmer()
    words=[ps.stem(word) for word in words]

sentence= ' '.join(words)

return sentence

```

```

def MyshowAllScores(y_test,y_pred):
    classes= np.unique(y_test)
    print("Accuracy : %0.3f"%(accuracy_score(y_test,y_pred)))
    print("Classification Report")
    print(classification_report(y_test,y_pred,digits=5))
    cnf_matrix = confusion_matrix(y_test,y_pred)
    disp=ConfusionMatrixDisplay(cnf_matrix,display_labels=classes)
    disp.plot()

```

```

[nltk_data] Downloading package wordnet to /root/nltk_data...
[nltk_data] Package wordnet is already up-to-date!
[nltk_data] Downloading package stopwords to /root/nltk_data...
[nltk_data] Package stopwords is already up-to-date!
[nltk_data] Downloading package punkt to /root/nltk_data...
[nltk_data] Package punkt is already up-to-date!

```

- La classe TextNormalizer qui contiendra la fonction MyCleanText.
- Fit_transform de mon corpus propre.

```

#.....Etape 1 :
prétraitement du
texte .....
.....
#.....Fonction
TextNormalizer .....
.....
#fit_transform de mon corpus propre
#.....
.....
.....

from sklearn.base import BaseEstimator, TransformerMixin

```

```

class TextNormalizer(BaseEstimator, TransformerMixin):
    def __init__(self,
                  removestopwords=False, # suppression des stopwords
                  lowercase=False, # passage en minuscule
                  removedigit=False, # supprimer les nombres
                  getstemmer=False, # racinisation des termes
                  getlemmatisation=False # lemmatisation des termes
                  ):

        self.lowercase=lowercase
        self.getstemmer=getstemmer
        self.removestopwords=removestopwords
        self.getlemmatisation=getlemmatisation
        self.removedigit=removedigit

    def transform(self, X, **transform_params):
        # Nettoyage du texte
        X=X.copy() # pour conserver le fichier d'origine
        return [MyCleanText(text,lowercase=self.lowercase,
                             getstemmer=self.getstemmer,
                             removestopwords=self.removestopwords,
                             getlemmatisation=self.getlemmatisation,
                             removedigit=self.removedigit) for text in
X]

```

```

    def fit(self, X, y=None, **fit_params):
        return self

    def fit_transform(self, X, y=None, **fit_params):
        return self.fit(X).transform(X)

    def get_params(self, deep=True):
        return {
            'lowercase':self.lowercase,
            'getstemmer':self.getstemmer,
            'removestopwords':self.removestopwords,
            'getlemmatisation':self.getlemmatisation,
            'removedigit':self.removedigit
        }

    def set_params(self, **parameters):
        for parameter, value in parameters.items():
            setattr(self,parameter,value)
        return self

```

##Etape 1 : Préparer les données

- Load et preparer les données à partir des 2 fichiers csv
- Sélectionner que les lignes où on a True, False

#Ici je cherche à sélectionner que les labels TRUE et FALSE, donc les LIGNES qui contiennent au rating TRUE et FALSE uniquement, le reste on enlève

```
dftrain = pd.read_csv("/content/gdrive/MyDrive/newsTrain2.csv",
names=['id','text','title','rating'], header=0,sep=',',
encoding='utf8')
dftrain.reset_index(drop = True, inplace = True)
```

```
dftrain2 = pd.read_csv("/content/gdrive/MyDrive/newsTrain_
_newsTrain.csv", names=['id','text','title','rating'],
header=0,sep=',', encoding='utf8')
dftrain2.reset_index(drop = True, inplace = True)
```

concaténer les deux dataframes en ajoutant les lignes du deuxième à la fin du premier

```
dftrain = pd.concat([dftrain, dftrain2], ignore_index=True)
```

```
dftrain = dftrain.loc[dftrain['rating'].isin(['TRUE','FALSE'])]
#dftrain=pd.read_csv("/content/gdrive/MyDrive/newsTest.csv",names=['id'
,'text','title','rating','veracity'], header=0,sep=',',
encoding='utf8')
print("Echantillon de mon dataset \n")
print(dftrain.sample(n=10))
print("\n")
print("Quelques informations importantes \n")
dftrain.info()
#print(dftrain.head())
X_text=dftrain.iloc[0:,1:2]

print("le type de X_test est" ,X_text.columns)
X_title=dftrain.iloc[0:,2:3]
print("le texte est")
display(X_text)
print("le titre est")
display(X_title)
#X_test=dftrain.iloc[1:, :4]
y=dftrain.iloc[0:,-1]
print("voici la dernière case")
display(y)
#y_test=dftrain.iloc[1:, -1]
#y = y_train.ravel()
print("la taille de X_test est",X_text.shape)
print("la taille de y_train est " ,y.shape)
print("les valeurs de TRUE et FALSE sont " ,y.value_counts())
```

Echantillon de mon dataset

	id	text \
697	ab66dbab	Bacon, burgers and sausages are as big a cance...
644	45d1505d	Commander-in-Chief of the Defence Services Min...
2406	e72c4292	Lord Neuberger said that judicial policy on ve...
2211	a1334b14	War-torn eastern regions of Ukraine have no la...
865	e2bc4450	0 DECATUR, Alabama – Police were recently tipp...
1921	3971d0e8	HOUSTON – In the weeks since President Obama's...
2446	acd7cfb8	Huge reductions in meat-eating are essential t...
2381	7212bc8a	The Labour Party has accused the Government of...
11	2ec747ae	Submitted by Great Game India Last year a mys...
1202	0a68da63	Australia's Great Barrier Reef has worst coral...

		title	rating
697	Trump aims new blasts at McCain, claims credit...		FALSE
644	Myanmar announces state of emergency		FALSE
2406	Veils should not be allowed in court, says Bri...		TRUE
2211	Look No Further, The Best Doctor Strange in th...		FALSE
865	Georgia to Review Mail-in Ballot Signatures to...		FALSE
1921	Ex-ambassador McFaul switches to Russian to ce...		FALSE
2446	Huge reduction in meat-eating 'essential' to a...		TRUE
2381	Chancellor failing patients with his £30 billi...		FALSE
11	Did China Steal Coronavirus From Canada And We...		FALSE
1202	Australia's Great Barrier Reef has worst coral...		TRUE

Quelques informations importantes

```
<class 'pandas.core.frame.DataFrame'>
Int64Index: 1578 entries, 0 to 2527
Data columns (total 4 columns):
#   Column   Non-Null Count  Dtype
---  -
0   id       1578 non-null   object
1   text     1578 non-null   object
2   title    1554 non-null   object
3   rating   1578 non-null   object
dtypes: object(4)
memory usage: 61.6+ KB
le type de X_test est Index(['text'], dtype='object')
le texte est
```

	text
0	Distracted driving causes more deaths in Canad...
3	But things took a turn for the worse when riot...
4	It's no secret that Epstein and Schiff share a...
6	November 23, 2019 The U.S. Food and Drug Admi...
7	Trump confirms this was a bombing, not an acci...
...	...
2523	More than four million calls to the taxman are...
2524	More under-18s are being taken to court for se...

```

2525 The Government's much vaunted Help to Buy Isa ...
2526 The late Robin Williams once called cocaine "G...
2527 The late Robin Williams once called cocaine "G...

```

```
[1578 rows x 1 columns]
```

le titre est

```

                                title
0      You Can Be Fined $1,500 If Your Passenger Is U...
3      Obama's Daughters Caught on Camera Burning US ...
4      Leaked Visitor Logs Reveal Schiff's 78 Visits ...
6      FDA Shocking Study: Cells Used In Vaccines Con...
7      Israel Hits Beirut with Nuclear Missile, Trump...
...
2523 Taxman fails to answer four million calls a ye...
2524 Police catch 11-year-olds being used to sell d...
2525 Help to Buy Isa scandal: 500,000 first-time bu...
2526      A coke-snorting generation of hypocrites
2527      A coke-snorting generation of hypocrites

```

```
[1578 rows x 1 columns]
```

voici la dernière case

```

0      FALSE
3      FALSE
4      FALSE
6      FALSE
7      FALSE
...
2523    TRUE
2524    TRUE
2525   FALSE
2526    TRUE
2527    TRUE

```

```
Name: rating, Length: 1578, dtype: object
```

```
la taille de X_text est (1578, 1)
```

```
la taille de y_train est (1578,)
```

```
les valeurs de TRUE et FALSE sont  FALSE    1156
```

```
TRUE      422
```

```
Name: rating, dtype: int64
```

Le jeu de données étant déséquilibré, on a pensé à appliquer le downsampling pour équilibrer nos données. On fait en sorte que le nombre de lignes avec en sortie FAUX soit égal au nombre de lignes avec en sortie true.

#On applique du sous-échantillonnage (downsampling) : car on a plus de FALSE (578) que des TRUE (211)


```

# Séparer les classes en deux dataframes
df_false = dftrain[dftrain['rating'] == 'FALSE']
df_true = dftrain [dftrain['rating'] == 'TRUE']

# Sous-échantillonner la classe majoritaire (FALSE) pour obtenir un
nombre égal d'échantillons pour chaque classe
df_false_subsampled = df_false.sample(n=len(df_true), random_state=42)

# Concaténer les deux dataframes
dftrain = pd.concat([df_false_subsampled, df_true])

# Mélanger aléatoirement les données
dftrain = dftrain.sample(frac=1, random_state=42)

```

```

X_text=dftrain["text"]
X_title=dftrain["title"]
y=dftrain.iloc[0:,-1]
print("la taille de X_text est",X_text.shape)
print("\n")
print("la taille de X_title est",X_title.shape)
print("\n")
print("la taille de y_train est " ,y.shape)
print("\n")
print("les valeurs de TRUE et FALSE maintenant sont
" ,y.value_counts())

```

la taille de X_text est (844,)

la taille de X_title est (844,)

la taille de y_train est (844,)

```

les valeurs de TRUE et FALSE maintenant sont  TRUE      422
FALSE      422
Name: rating, dtype: int64

```

##Etape 2 : Classification selon la colonne TEXT + extraction/application d'entités nommées

Tests de Classification pour trouver le meilleur classifieur, les meilleurs paramètres de prétraitement et les meilleurs hyper_paramètres.

Avant de classifier on applique les entités nommées, Cette fonction utilise Spacy pour extraire les entités nommées à partir d'une liste de textes et les stocke dans une liste pour être affichées avec leurs labels correspondants.

```
nlp = spacy.load("en_core_web_sm")
texte=dftrain['text']
#Créer une liste pour stocker les entités nommées
entities = []
# Traiter chaque texte individuellement et ajouter les entités à la liste
for phrase in texte:
    phrase_str = str(phrase) # Convertir l'élément en chaîne de caractères
    doc = nlp(phrase_str)
    for ent in doc.ents:
        entities.append((ent.text, ent.label_))

# Afficher les entités nommées
for entity in entities:
    print(entity[0], entity[1])
```

Le flux de sortie a été tronqué et ne contient que les 5000 dernières lignes.

```
EPA ORG
UK GPE
10 April 2021 DATE
The Death Gun Salute ORG
the Honourable Artillery Company ORG
Britain GPE
Prince Philip GPE
the The Tower of London AFP FAC
Getty UK ORG
9 April 2021 DATE
Buckingham Palace FAC
London GPE
Britain GPE
Prince Philip GPE
Elizabeth II's PERSON
Prince Philip PERSON
more than a month DATE
April 9 DATE
Buckingham Palace FAC
99 DATE
Getty Images ORG
UK GPE
8 April 2021 DATE
James King PERSON
4:05 TIME
REUTERS ORG
```

UK GPE
7 April 2021 DATE
the Independent Workers' Union of Great Britain ORG
Deliveroo GPE
London GPE
UK GPE
6 April 2021 DATE
Seaham Lighthouse ORG
Durham PA GPE
UK GPE
5 April 2021 DATE
Lusamba Katalay ORG
Belly Mujinga GPE
Victoria GPE
London GPE
first ORDINAL
Belly Mujinga GPE
London GPE
Victoria GPE
UK GPE
4 April 2021 DATE
Easter Sunday at EVENT
Hengistbury Head FAC
UK GPE
3 April 2021 DATE
Bill PERSON
London GPE
EPA ORG
UK GPE
2 April 2021 DATE
Bamburgh Croquet ORG
COVID-19 ORG
Northumberland GPE
Britain GPE
UK GPE
1 April 2021 DATE
St Nicholas' Park PERSON
Warwick GPE
UK GPE
this week DATE
Easter ORG
PA UK ORG
31 March 2021 DATE
the National Covid Memorial Wall ORG
London GPE
EPA ORG
UK GPE
30 March DATE
Jamie Klingler PERSON
Reclaim These Streets ORG

Clapham Common FAC
London GPE
the Chief Inspector of Constabulary ORG
Thomas Winsor PERSON
Metropolitan Police ORG
PA UK ORG
29 March 2021 DATE
the Mersey Bowman Lawn Tennis Club ORG
Liverpool GPE
England GPE
March 29, 2021 DATE
England GPE
third ORDINAL
up to six CARDINAL
England GPE
Monday DATE
second ORDINAL
AFP ORG
Getty Images ORG
UK GPE
28 March 2021 DATE
Tenby Lifeboat ORG
Tenby GPE
Wales Reuters ORG
UK GPE
27 March 2021 DATE
Manchester Reuters ORG
UK GPE
26 March 2021 DATE
Andy Warhol PERSON
Elizabeth II PERSON
Reigning Queens ORG
1985 DATE
Elizabeth II PERSON
1985 DATE
Christie's ORG
London GPE
UK GPE
25 March 2021 DATE
Charlton Lido PERSON
London GPE
PA UK ORG
24 March 2021 DATE
Scottish Green Party ORG
Patrick Harvie PERSON
Lorna Slater PERSON
Edinburgh GPE
PA GPE
UK GPE
23 March 2021 DATE

Westbourne House ORG
Sheffield GPE
the National Reflection day EVENT
first ORDINAL
first ORDINAL
UK GPE
Tom Maddick PERSON
UK GPE
22 March 2021 DATE
Couple CARDINAL
Sean Henry PERSON
Newbiggin GPE
the-Sea LOC
Northumberland GPE
UK GPE
21 March 2021 DATE
Jersey GPE
meteor ORG
UK GPE
20 March 2021 DATE
London GPE
UK GPE
19 March 2021 DATE
St. James's Park GPE
London GPE
Britain GPE
UK GPE
18 March 2021 DATE
Highland PERSON
the National Trust's ORG
Cambridgeshire GPE
UK GPE
17 March 2021 DATE
early in the morning TIME
PA GPE
UK GPE
16 March 2021 DATE
60-metre QUANTITY
12-year-old DATE
Ansha PERSON
Ethiopia GPE
WaterAid ORG
Whitby Beach GPE
Yorkshire GPE
hours TIME
each day DATE
UK GPE
15 March 2021 DATE
2021 DATE
Teresa Solar ORG

Exchange Flags ORG
one CARDINAL
11th ORDINAL
Liverpool Biennial ORG
March 20, 2021 DATE
nine CARDINAL
PA Photo ORG
Monday March 15, 2021 DATE
PA Photo ORG
second ORDINAL
UK GPE
14 March 2021 DATE
Sarah Everard PERSON
Clapham Common FAC
Sarah Everard's PERSON
Parliament Square FAC
London AFP PERSON
Getty UK ORG
13 March 2021 DATE
Sarah Everard PERSON
Clapham Common FAC
London GPE
Getty Images ORG
UK GPE
12 March DATE
2021 DATE
Angela Rayner PERSON
the Labour Party ORG
Jonathan Ashworth PERSON
Shadow Health WORK_OF_ART
London GPE
1 percent PERCENT
Thursday DATE
May PA DATE
UK GPE
11 March 2021 DATE
Newhaven GPE
England AFP/ PERSON
UK GPE
10 March 2021 DATE
Great Chart Golf FAC
Leisure in Ashford ORG
UK GPE
9 March 2021 DATE
Kielder Water FAC
Northumberland GPE
the Border Mires ORG
50 year old DATE
the Border Mires in WORK_OF_ART
Northumberland GPE

UK GPE
8 March 2021 DATE
the Jewellery Quarter Academy ORG
Birmingham GPE
the West Midlands LOC
England GPE
first ORDINAL
two months DATE
first ORDINAL
UK GPE
7 March 2021 DATE
NHS ORG
NHS Workers ORG
Unite ORG
Downing Street FAC
London GPE
1% PERCENT
UK GPE
6 March 2021 DATE
Scottish NORP
Ibrox Stadium FAC
UK GPE
March 2021 DATE
Sutton Manor GPE
St Helens PERSON
a clear DATE
Spring day DATE
PA GPE
UK GPE
4 March 2021 DATE
Health ORG
Matt Hancock PERSON
the Centre for Virus Research ORG
Glasgow PA GPE
UK GPE
March 2021 DATE
Exchequer ORG
Rishi Sunak ORG
11 Downing Street ORG
London GPE
the House of Commons ORG
Budget PA UK ORG
2 March 2021 DATE
the Carbis Bay Estate PRODUCT
G7 CARDINAL
Getty UK ORG
1 March 2021 DATE
A J Thompson & Sons ORG
the Romney Marsh ORG
Kent PERSON

the first day DATE
UK GPE
28 CARDINAL
February 2021 DATE
Scarborough GPE
North Yorkshire GPE
UK GPE
27 February 2021 DATE
Tom Moore PERSON
the Armed Forces at Bedford Crematorium ORG
Bedford GPE
EPA ORG
UK GPE
26 February 2021 DATE
New Brighton GPE
Wirral PA UK ORG
25 February 2021 DATE
Shadow PRODUCT
Anneliese NORP
the Institute of Global Prosperity ORG
Labour Party ORG
London GPE
UK GPE
24 February 2021 DATE
Britain GPE
Health ORG
Matt Hancock PERSON
Downing Street FAC
London GPE
Britain GPE
UK GPE
23 CARDINAL
February 2021 DATE
Two CARDINAL
Boscombe GPE
Dorset PA GPE
Dean Haydon PERSON
national counterterror policing ORG
CT Policing ORG
London GPE
11 CARDINAL
Theresa May PERSON
Downing St PERSON
last year's DATE
more than 650 CARDINAL
about a third CARDINAL
the start of 2017 DATE
Haydon PERSON
the last year DATE
the Counter Terrorism and Border Security Bill ORG

two CARDINAL
Terrorism Acts ORG
0800 CARDINAL
321 CARDINAL
Taylor Zundel PERSON
Salt Lake City GPE
at least one CARDINAL
82-Year-Old DATE
30 Years DATE
only two CARDINAL
at least one CARDINAL
two CARDINAL
Democratic Party ORG
Entire Trays of Mail ORG
Wisconsin GPE
Hunter Ribarchak PERSON
7 DATE
the Iron Workers of America's ORG
Labor Day Parade EVENT
Pittsburgh GPE
Pa. GPE
Monday, Sept. 1, 2008 DATE
Labor Day DATE
this year DATE
American NORP
25 million CARDINAL
American NORP
the worst decade DATE
American NORP
a century DATE
Commerce Department ORG
the last decade DATE
the decade of the Great Depression DATE
4 percent PERCENT
the last ten years DATE
5 percent PERCENT
1929 to 1939 DATE
Big American NORP
the United States GPE
American NORP
the United States GPE
the Supreme Court's ORG
American NORP
350 CARDINAL
American NORP
11 percent PERCENT
last year DATE
\$9.3 million MONEY
The Wall Street Journal ORG
Hay Group ORG

19.7 percent PERCENT
2008 DATE
2009 DATE
March, 2009 DATE
Ford ORG
Alan Mulally PERSON
an estimated \$16 million MONEY
Ford ORG
UAW ORG
Ford ORG
roughly half CARDINAL
Ford ORG
Mulally's ORG
2009 DATE
over \$200 million MONEY
the Great Depression EVENT
the Great Depression EVENT
American NORP
70 percent PERCENT
Labor Day EVENT
Washington GPE
Republicans NORP
Republican NORP
Indiana GPE
Ohio GPE
Maine GPE
Wisconsin GPE
this Labor Day DATE
American NORP
Labor Day EVENT
1979–2000 CARDINAL
late twentieth century DATE
twentieth century DATE
2 CARDINAL
the twenty-first century DATE
Unreliable Circumstantial ORG
Arctic sea LOC
the twentieth century DATE
over the past 100 years DATE
England GPE
up to £ MONEY
120 MONEY
28 days DATE
just over half CARDINAL
David Cameron PERSON
BBC Breakfast ORG
the Conservative Party ORG
60 MONEY
England GPE
21 days DATE

28 days DATE
David Cameron PERSON
BBC Breakfast ORG
the Conservative Party ORG
Manchester GPE
The Press Association ORG
earlier this year DATE
16,430 CARDINAL
England GPE
last year DATE
About three-quarters - 12,479 CARDINAL
9,214 CARDINAL
172 MONEY
Cameron PERSON
first ORDINAL
September 2011 DATE
April 2012 DATE
Chris Keates PERSON
the teachers union ORG
NASUWT PERSON
England GPE
Schools PERSON
Update ORG
8 October 2015 DATE
28 days DATE
Francis PERSON
this morning TIME
Conservative Beaver ORG
Pope Francis PERSON
TweetDeck ORG
Francis PERSON
Federal Custody ORG
Italy GPE
FBI ORG
10 minutes ago TIME
Vatican FAC
January 10, 2021 DATE
VATICAN ORG
Francis PERSON
Jorge Mario Bergoglio PERSON
Saturday DATE
Vatican FAC
Tim Young PERSON
January 10, 2021 DATE
The Italian National Prosecutor's Office ORG
Italian NORP
Vatican FAC
Francis PERSON
Federal Agents ORG
Italy GPE

Interpol ORG
FBI ORG
Interpol ORG
Giuseppe Governale PERSON
Italy GPE
Francis PERSON
Vatican FAC
Vatican GPE
Italy GPE
Europe LOC
Italy GPE
Giuseppe Governale PERSON
Vatican FAC
Vatican FAC
CARDINAL
Pakistan GPE
Vatican FAC
@anoncatnews ORG
January 10, 2021 DATE
Vatican FAC
January 10, 2021 DATE
first ORDINAL
Interpol ORG
first ORDINAL
first ORDINAL
@DennisseLiseth January 10, 2021 DATE
EU ORG
Canada GPE
US GPE
Italian NORP
Google ORG
first ORDINAL
Buckingham Palace FAC
David Cameron PERSON
David PERSON
David PERSON
David Cameron PERSON
one CARDINAL
Conservative NORP
Unionist Party ORG
England GPE
Scotland GPE
Wales GPE
Northern Ireland GPE
the United Kingdom GPE
9 years earlier DATE
Britain GPE
Britain GPE
Westminster GPE
Great Britain GPE

the European Union ORG
Britain GPE
Britain GPE
163 CARDINAL
George Soros For PERSON
thousands CARDINAL
Scottish NORP
Criminal Record FAC
Invalid ORG
2015 DATE
a few months DATE
56 CARDINAL
June 8 DATE
Sturgeon ORG
second ORDINAL
Scotland GPE
Sturgeon PERSON
SNP ORG
Scotland GPE
SNP ORG
NHS ORG
Scotland GPE
1billion MONEY
the SNP Government ORG
Scotland GPE
Sturgeon ORG
Scotland GPE
more than 2500 CARDINAL
David Cheskin/PA Wire PERSON
8 CARDINAL
more than six months DATE
474 per cent MONEY
SNP ORG
almost 400 CARDINAL
Scotland GPE
Labour ORG
England GPE
Scotland GPE
SNP ORG
4000 CARDINAL
1000 CARDINAL
2007 DATE
SNP ORG
Labour ORG
England GPE
Scotland GPE
SNP ORG
Scotland GPE
one CARDINAL
Scotland GPE

Scotland GPE
the past year DATE
SNP ORG
1000 CARDINAL
Labour ORG
Scotland GPE
ScotRail ORG
14-year DATE
Labour ORG
SNP ORG
ScotRail ORG
Dutch NORP
Abellio PERSON
Labour ORG
the age of 60 DATE
SNP ORG
Sturgeon ORG
today DATE
second ORDINAL
Labour ORG
June 8 DATE
The Novel Coronavirus Infecting ORG
China GPE
Army ORG
Coronavirus LOC
China GPE
BIO-WEAPON ORG
the Wuhan Virology Laboratory ORG
China GPE
People's Liberation Army ORG
Nanjiang Command ORG
Bat PERSON
the Chinese Army ORG
Two CARDINAL
HIV-1 CARDINAL
Bat PERSON
ACES2 PERSON
BIO-WEAPON PROOF ORG
Bat PERSON
the National Center for Biotechnology Information ORG
the US National Library of Medicine ORG
the year 2018 DATE
China GPE
Institute of Military Medicine ORG
Nanjing Command ORG
the National Center for Biotechnology Information ORG
Bat PERSON
AVP 70833.1 CARDINAL
the National Center for Biotechnology Information ORG
the U.S. Library of Medicine FAC

Coronavirus EVENT
National Center for Biotechnology Information ORG
January of this year DATE
the Shanghai Public Health Clinical Center ORG
BLAST Basic Local Alignment Search Tool ORG
the U.S. National Library of Medicine ORG
two CARDINAL
100% PERCENT
2019 DATE
2019- nCoV. QUANTITY
2019 DATE
nCoV ORG
4 CARDINAL
2019 DATE
4 CARDINAL
2019 DATE
nCoV ORG
4 CARDINAL
2019 DATE
HIV-1 PRODUCT
Bat PERSON
the Virus Envelope ORG
100% PERCENT
2018 DATE
Bat PERSON
Coronavirus PERSON
China GPE
People's Liberation Army ORG
the Institute of Military Medicine ORG
Nanjiang Command ORG
the year 2018 DATE
two years later DATE
as day DATE
China GPE
Bat PERSON
LOSE ORG
China GPE
the first month DATE
China GPE
QUARANTINED PERSON
more than fifty-six MILLION CARDINAL
56,000,000 CARDINAL
nineteen 19 DATE
China GPE
only a few hundred CARDINAL
only about 25 CARDINAL
China GPE
19 CARDINAL
56 Million CARDINAL
China GPE

China GPE
China GPE
China GPE
FACTS ORG
eighty-three percent PERCENT
83% PERCENT
100 CARDINAL
EXPOSED ORG
83 CARDINAL
AIR ORG
five days DATE
twenty eight days DATE
a couple minutes, hours TIME
A few minutes later TIME
One CARDINAL
over 100 years DATE
the Spanish Flu of 1918 EVENT
Spanish NORP
Spanish NORP
1918-1919 DATE
the United States GPE
first ORDINAL
spring 1918 DATE
about 500 million CARDINAL
one-third CARDINAL
at least 50 million CARDINAL
about 675,000 CARDINAL
the United States GPE
one CARDINAL
1918-1919 DATE
Spanish LANGUAGE
1.4 CARDINAL
2.8 CARDINAL
2 CARDINAL
1.4 CARDINAL
2.8 CARDINAL
Bio-Weapon ORG
R4.08 PRODUCT
FAAAAAAR Worse ORG
1918 DATE
Spanish Flu EVENT
Satistia ORG
U.S. GPE
1975-2017 DATE
1975 DATE
about 1.5 million CARDINAL
U.S. GPE
2017 DATE
just about 931 thousand CARDINAL
9, 2019 DATE

TrendingEconomics, Hospital ORG
1,000 CARDINAL
United States GPE
2.9 CARDINAL
2013 DATE
World Bank ORG
the Infection Rate ORG
83% PERCENT
1,000 CARDINAL
this Bio-Weapon ORG
830 CARDINAL
2.9 CARDINAL
US GPE
830 CARDINAL
2.9 CARDINAL
2.9 CARDINAL
65-70% PERCENT
56 Million CARDINAL
19 CARDINAL
Quarantined NORP
days DATE
Coronavirus LOC
Quarantined NORP
China GPE
Filter Masks: People WORK_OF_ART
Mexico GPE
Hemorrhagic ORG
China GPE
Nailed-in PERSON
One CARDINAL
Hebei GPE
five days DATE
Shaanxi GPE
China GPE
China GPE
only about 30 Days DATE
just 30 days DATE
ONE CARDINAL
ONE CARDINAL
China GPE
WILL GPE
America GPE
Today DATE
February 1 DATE
California GPE
seventh ORDINAL
the United States GPE
Santa Clara County GPE
the Centers for Disease Control and Prevention ORG
Friday DATE

afternoon TIME
two CARDINAL
California GPE
two CARDINAL
Illinois GPE
Arizona GPE
one CARDINAL
Washington GPE
4:43 PM EST TIME
eighth ORDINAL
US GPE
his 20s DATE
Boston GPE
Boston GPE
Massachusetts GPE
Wuhan GPE
China GPE
Yesterday DATE
The Hal Turner Radio Show ORG
Presbyterian Hospital ORG
Pittsburgh GPE
Corona Virus ORG
FORCED Nurses, Doctors and Staff ORG
Non-Disclosure Agreements ORG
American NORP
Doctors, Nurses ORG
around 65 million CARDINAL
China GPE
the start of spring DATE
259 CARDINAL
China GPE
dozens CARDINAL
259 CARDINAL
The Medical Infrastructure of the United States ORG
ten days DATE
Medical Infrastructure COLLAPSE ORG
USA GPE
China GPE
America GPE
PANIC ORG
SHTF ORG
Preps PERSON
FedEx GPE
One CARDINAL
Two CARDINAL
N-95 PERSON
N-100 GPE
HERE-N-95 ORG
HERE N-100 LOC
3M 2091 DATE

Get Eye Protection ORG
Gloves Here Wear ORG
Centrum PERSON
Bible WORK_OF_ART
decades DATE
Quarantine PERSON
the 6 weeks DATE
Preps PRODUCT
SUNDAY 10:15 AM EST TIME
Chinese NORP
Sunday DATE
CARDINAL
Shi Zhengli PERSON
Chinese NORP
the #Wuhan Institute of Virology ORG
People's Daily ORG
China GPE
February 2, 2020 DATE
China GPE
the Wuhan Virology ORG
100% PERCENT
China GPE
Virus ORG
Frankenstein PERSON
Virus ORG
Sorry China LOC
Today DATE
February 1 DATE
a couple more bucks MONEY
HAROLD PERSON
1906 DATE
Paterson Plank Road 1-A EVENT
North Bergen LOC
NJ 07047-1902 ORG
US Dollars ORG
two CARDINAL
a couple cents MONEY
Advertiser ORG
COVER ORG
COST ORG
one CARDINAL
Advertiser ORG
two to three cents MONEY
2005 DATE
79% PERCENT
Fauci PERSON
Birx PERSON
CDC ORG
America GPE
over 150,000 CARDINAL

nearly 80% PERCENT
US GPE
2020 RNC Night 2 Live-Stream Video Starting TIME
8 PM ET TIME
First ORDINAL
Melania Trump PERSON
State ORG
Mike Pompeo PERSON
Rand Paul PERSON
Mary Ann Mendoza PERSON
Eric Trump PERSON
Tiffany Trump PERSON
Nick Sandmann PERSON
100,000 CARDINAL
American NORP
Wednesday night TIME
Ramin Osoei PERSON
Laura Ingraham PERSON
2 billion CARDINAL
Fauci PERSON
Privacy Policy and Terms of Use You ORG
97% PERCENT
758 CARDINAL
3% PERCENT
20 CARDINAL
Votes ORG
Ramin Oskoui PERSON
tens of thousands CARDINAL
Oskoui PERSON
Fauci PERSON
Hahn PERSON
Redfield PERSON
Physicians NORP
Over 100,000 CARDINAL
Via The Ingraham Angle PERSON
CNN ORG
Monday DATE
the UN Intergovernmental Panel on Climate Change (IPCC ORG
1.5 degrees Celsius QUANTITY
2.7 degrees QUANTITY
Fahrenheit WORK_OF_ART
as early as 2030 DATE
hundreds of millions MONEY
today DATE
two-thirds CARDINAL
about 1 degree CARDINAL
the next few years DATE
1.5 degrees QUANTITY
Andrew King PERSON
the University of Melbourne ORG

45% PERCENT
2010 DATE
2030 DATE
zero CARDINAL
2050 DATE
around 1.5 degrees QUANTITY
1.5 degrees QUANTITY
the Paris Agreement LAW
NASA ORG
Operation IceBridge ORG
Greenland GPE
Arctic LOC
One CARDINAL
1 degree QUANTITY
Arctic LOC
Panmao Zhai PERSON
IPCC Working Group I. ORG
just below 1.5 degrees QUANTITY
summer DATE
Europe LOC
this summer DATE
3 degrees QUANTITY
between 70 and 90% PERCENT
Australia GPE
Great Barrier Reef FAC
1.5 degrees QUANTITY
Hans-Otto Pörtner PERSON
Co-Chair of IPCC Working Group II ORG
1.5 degrees QUANTITY
2 degrees QUANTITY
10 cm QUANTITY
2100 DATE
Arctic Ocean LOC
summer DATE
70% to 90% PERCENT
IPCC ORG
Monday DATE
three years DATE
2015 DATE
Paris Climate Agreement EVENT
Paris GPE
197 CARDINAL
2 degrees QUANTITY
1.5 degrees QUANTITY
C. NORP
The United States GPE
Donald Trump PERSON
a year and half later DATE
1.5 degree QUANTITY
Jim Skea PERSON

IPCC Working Group III ORG
Sarah Perkins-Kirkpatrick PERSON
the Climate Change Research Center ORG
the University of New South Wales ORG
The next few years DATE
One CARDINAL
two CARDINAL
Trump ORG
Today the world's WORK_OF_ART
US GPE
Al Gore PERSON
Trump ORG
American NORP
Barack Obama PERSON
US GPE
Nov. 28, 2020 DATE
CIA ORG
the People's Republic of China GPE
PRC GPE
The Criminal Complaint ORG
this morning TIME
John C. Demers PERSON
U.S. GPE
FBI ORG
Alan E. Kohler Jr. PERSON
Charge of the FBI's ORG
Honolulu Field Office ORG
Canadian NORP
Conservative Beaver ORG
Canadian NORP
Spanish LANGUAGE
Chinese NORP
American NORP
democratic NORP
John C. Demers PERSON
Chinese NORP
today DATE
Hawaii GPE
U.S. GPE
China GPE
the?People's Republic of China GPE
the United States GPE
Alan E. Kohler Jr. PERSON
FBI ORG
Counterintelligence Division ORG
FBI ORG
Chinese NORP
the United States GPE
years DATE
Eli Miranda PERSON

Charge of the FBI's ORG
Honolulu Division ORG
FBI ORG
Honolulu Division ORG
FBI ORG
Obama PERSON
Obama PERSON
Shane Smedley @ShaneSmedley ORG
November 30, 2020 DATE
Obama GPE
5 days DATE
ccp ORG
Self-Aware ORG
December 1, 2020 DATE
Google ORG
first ORDINAL
Beaumont GPE
Texas GPE
Jefferson County GPE
this morning TIME
one CARDINAL
the Beaumont Police Department ORG
48-year DATE
Henri Paul Johnson PERSON
sixteen hours TIME
52-year-old DATE
between 1400 to 1800 degrees DATE
Fahrenheit PERSON
Jenna Davis PERSON
one CARDINAL
Henri Johnson's ORG
about 15 seconds TIME
first ORDINAL
Davis PERSON
Johnson PERSON
Canada GPE
Canada GPE
Mike Adams of Natural News Natural News PERSON
Canadian NORP
Programmable Hydraulic Guillotines WORK_OF_ART
Canada GPE
COVID-19 ORG
45045-190091 DATE
45045-190091 DATE
National Capital Region Notice ORG
Programmable Hydraulic Guillotines WORK_OF_ART
Canadian NORP
Canada GPE
COVID-19 ORG
Guillotine ORG

Cambridge GPE
Antifa PERSON
BLM ORG
America GPE
the French Revolution EVENT
Canadian NORP
Canada GPE
COVID-19 ORG
Canada GPE
Canada GPE
Canadian NORP
Justin Trudeau PERSON
Canadian NORP
Nazi Germany GPE
years DATE
Ontario PERSON
Randy Hillier PERSON
Ontario GPE
Randy Hillier PERSON
Lanark PERSON
Kingston ORG
covid-19 PERSON
Hillier PERSON
Premier ORG
Premier ORG
Ontario GPE
Hillier PERSON
YouTube ORG
Canadian NORP
Guillotines Mandatory Requirements WORK_OF_ART
Guillotine PERSON
Guillotine ORG
Guillotine PERSON
Guillotine NORP
Guillotine PERSON
Guillotine PERSON
Guillotine PERSON
Guillotine ORG
a "1 year DATE
n't GPE
One CARDINAL
Canada GPE
Canada GPE
COVID-19 ORG
Cutting Machine WORK_OF_ART
France GPE
China GPE
Canada GPE
French LANGUAGE
China GPE

Canada GPE
Justin Trudeau PERSON
China GPE
Joe Biden PERSON
Chinese NORP
Western Canada ORG
Western Canada ORG
Communist NORP
America GPE
Dave Hodges PERSON
The Commonsense Show EVENT
Americans NORP
Canadian NORP
Chinese NORP
Steve Quayle PERSON
three CARDINAL
Communist NORP
China GPE
Canada GPE
the United States GPE
NATO ORG
American NORP
the Bush Sr. FAC
CSS ORG
UN ORG
America GPE
Harris-Biden ORG
Trudeau PERSON
Canada GPE
Canadian NORP
Canada GPE
Americans NORP
Earth LOC
the World Meteorological Organisation ORG
Cedro ORG
Quixadá GPE
Brazil GPE
2016 DATE
the hottest year DATE
2017 DATE
the World Meteorological Organisation ORG
WMO ORG
2016 DATE
Tuesday DATE
El Niño ORG
2016 DATE
US GPE
February DATE
El Niño ORG
2017 DATE

David Carlson PERSON
WMO ORG
Earth LOC
Jeffrey Kargel PERSON
the University of Arizona ORG
US GPE
Prof David Reay PERSON
the University of Edinburgh ORG
Donald Trump PERSON
Trump ORG
Republicans NORP
Congress ORG
Robert Watson PERSON
UK GPE
University of East Anglia ORG
UN ORG
Watson PERSON
Trump ORG
WMO ORG
Petteri Taalas PERSON
1880 DATE
about 115,000 years ago DATE
4m years DATE
2017 DATE
US GPE
February DATE
Australia GPE
Arctic ice LOC
October DATE
six consecutive months DATE
four-decade DATE
Prof Julianne Stroeve PERSON
University College London ORG
UK GPE
Eel PERSON
Lowell's Cove, FAC
Maine GPE
US GPE
Emily Shuckburgh PERSON
the British Antarctic Survey ORG
Arctic LOC
Greenland GPE
Arctic sea LOC
Europe LOC
Asia LOC
North America LOC
between November 2014 and February 2016 DATE
El Niño ORG
15mm QUANTITY
five years DATE

recent decades DATE
2016 DATE
Arctic LOC
tens CARDINAL
Australia GPE
February DATE
Taalas GPE
the Mother Jones Daily ORG
Newt Gingrich PERSON
one CARDINAL
Donald Trump's PERSON
Cabinet ORG
Republican NORP
Trump ORG
Hillary Clinton PERSON
Gingrich PERSON
two years ago DATE
Trump ORG
four years ago DATE
Electoral College ORG
Election Day 2012 DATE
Mitt Romney PERSON
the Electoral College ORG
Barack Obama PERSON
Trump ORG
April DATE
Ben Carson PERSON
the Electoral College ORG
Gingrich PERSON
Trumpsters ORG
Trump ORG
2014 DATE
Gingrich PERSON
National Popular Vote ORG
11 CARDINAL
one CARDINAL
an additional 12 CARDINAL
Americans NORP
two years ago DATE
Gingrich PERSON
Gingrich PERSON
Americans NORP
Gingrich PERSON
314 million CARDINAL
Earth LOC
Gingrich PERSON
America GPE
Clinton PERSON
Trump ORG
60 million CARDINAL

59.8 million CARDINAL
one-fifth CARDINAL
Americans NORP
Gingrich PERSON
Trump ORG
one CARDINAL
the White House FAC
Trump ORG
2012 DATE
The United States GPE
More than 300 CARDINAL
between June and August DATE
under 18 DATE
796 CARDINAL
312 CARDINAL
under 18 DATE
the Press Association ORG
Prevent NORP
Channel ORG
last week DATE
14-year-old DATE
Britain GPE
Australia GPE
the National Police Chiefs' Council ORG
July DATE
349 CARDINAL
more than 10 CARDINAL
the previous month DATE
327 CARDINAL
120 CARDINAL
August DATE
the summer DATE
between June and August DATE
2012/13 CARDINAL
the first year DATE
England GPE
Wales GPE
the first three months DATE
2014/15 CARDINAL
Channel ORG
2007 DATE
one CARDINAL
five CARDINAL
Rashad Ali PERSON
the Institute for Strategic Dialogue ORG
later this year DATE
David Anderson QC PERSON
Britain GPE
Muslim NORP
last month DATE

14-year-old DATE
Muslim NORP
Isis ORG
London GPE
the North Pole LOC
Arctic LOC
winter DATE
nearly four decades DATE
the third straight year DATE
Arctic LOC
Arctic sea LOC
Mark Serreze PERSON
the National Snow and Ice Data Center ORG
Boulder GPE
Colo. GPE
Serreze PERSON
summer DATE
2030 DATE
a decade DATE
two CARDINAL
The Independent ORG
six CARDINAL
10 CARDINAL
Britain GPE
Chris Grayling PERSON
thousands CARDINAL
weeks DATE
Govia Thameslink Rail GTR ORG
last week DATE
East Coast LOC
Virgin Trains PERSON
Stagecoach PERSON
BMG Research ORG
last week DATE
64 per cent MONEY
just 19 per cent MONEY
56 per cent MONEY
only 15 per cent MONEY
Inside Politics ORG
Brexit PERSON
Please ORG
Please ORG
Inside Politics ORG
CARDINAL
The Independent ORG
Inside Politics ORG
Brexit PERSON
Inside Politics ORG
CARDINAL
The Independent ORG

80 per cent MONEY
Some 64 CARDINAL
only 20 CARDINAL
More than 15,000 CARDINAL
May DATE
GCSEs ORG
Cambridgeshire GPE
Hertfordshire GPE
Last week DATE
Mr Grayling ORG
recent years DATE
Andy McDonald PERSON
Network Rail ORG
Network Rail ORG
UK GPE
50 1 CARDINAL
UK GPE
UK GPE
13 April 2021 DATE
the early hours of Tuesday morning TIME
Bamburgh Lighthouse ORG
Northumberland GPE
UK GPE
12 April DATE
2021 DATE
Rebecca Richardson PERSON
Genevieve Florence PERSON
Clissold Leisure Centre ORG
London GPE
UK GPE
11 April 2021 DATE
Fox ORG
Hill PERSON
Denmark Hill PERSON
London GPE
EPA ORG
UK GPE
10 April 2021 DATE
The Death Gun Salute ORG
the Honourable Artillery Company ORG
Britain GPE
Prince Philip GPE
the The Tower of London AFP FAC
Getty UK ORG
9 April 2021 DATE
Buckingham Palace FAC
London GPE
Britain GPE
Prince Philip GPE
Elizabeth II's PERSON

Prince Philip PERSON
more than a month DATE
April 9 DATE
Buckingham Palace FAC
99 DATE
Getty Images ORG
UK GPE
8 April 2021 DATE
James King PERSON
4:05 TIME
REUTERS ORG
UK GPE
7 April 2021 DATE
the Independent Workers' Union of Great Britain ORG
Deliveroo GPE
London GPE
UK GPE
6 April 2021 DATE
Seaham Lighthouse ORG
Durham PA GPE
UK GPE
5 April 2021 DATE
Lusamba Katalay ORG
Belly Mujinga GPE
Victoria GPE
London GPE
first ORDINAL
Belly Mujinga GPE
London GPE
Victoria GPE
UK GPE
4 April 2021 DATE
Easter Sunday at EVENT
Hengistbury Head FAC
UK GPE
3 April 2021 DATE
Bill PERSON
London GPE
EPA ORG
UK GPE
2 April 2021 DATE
Bamburgh Croquet ORG
COVID-19 ORG
Northumberland GPE
Britain GPE
UK GPE
1 April 2021 DATE
St Nicholas' Park PERSON
Warwick GPE
UK GPE

this week DATE
Easter ORG
PA UK ORG
31 March 2021 DATE
the National Covid Memorial Wall ORG
London GPE
EPA ORG
UK GPE
30 March DATE
Jamie Klingler PERSON
Reclaim These Streets ORG
Clapham Common FAC
London GPE
the Chief Inspector of Constabulary ORG
Thomas Winsor PERSON
Metropolitan Police ORG
PA UK ORG
29 March 2021 DATE
the Mersey Bowman Lawn Tennis Club ORG
Liverpool GPE
England GPE
March 29, 2021 DATE
England GPE
third ORDINAL
up to six CARDINAL
England GPE
Monday DATE
second ORDINAL
AFP ORG
Getty Images ORG
UK GPE
28 March 2021 DATE
Tenby Lifeboat ORG
Tenby GPE
Wales Reuters ORG
UK GPE
27 March 2021 DATE
Manchester Reuters ORG
UK GPE
26 March 2021 DATE
Andy Warhol PERSON
Elizabeth II PERSON
Reigning Queens ORG
1985 DATE
Elizabeth II PERSON
1985 DATE
Christie's ORG
London GPE
UK GPE
25 March 2021 DATE

Charlton Lido PERSON
London GPE
PA UK ORG
24 March 2021 DATE
Scottish Green Party ORG
Patrick Harvie PERSON
Lorna Slater PERSON
Edinburgh GPE
PA GPE
UK GPE
23 March 2021 DATE
Westbourne House ORG
Sheffield GPE
the National Reflection day EVENT
first ORDINAL
first ORDINAL
UK GPE
Tom Maddick PERSON
UK GPE
22 March 2021 DATE
Couple CARDINAL
Sean Henry PERSON
Newbiggin GPE
the-Sea LOC
Northumberland GPE
UK GPE
21 March 2021 DATE
Jersey GPE
meteor ORG
UK GPE
20 March 2021 DATE
London GPE
UK GPE
19 March 2021 DATE
St. James's Park GPE
London GPE
Britain GPE
UK GPE
18 March 2021 DATE
Highland PERSON
the National Trust's ORG
Cambridgeshire GPE
UK GPE
17 March 2021 DATE
early in the morning TIME
PA GPE
UK GPE
16 March 2021 DATE
60-metre QUANTITY
12-year-old DATE

Ansha PERSON
Ethiopia GPE
WaterAid ORG
Whitby Beach GPE
Yorkshire GPE
hours TIME
each day DATE
UK GPE
15 March 2021 DATE
2021 DATE
Teresa Solar ORG
Exchange Flags ORG
one CARDINAL
11th ORDINAL
Liverpool Biennial ORG
March 20, 2021 DATE
nine CARDINAL
PA Photo ORG
Monday March 15, 2021 DATE
PA Photo ORG
second ORDINAL
UK GPE
14 March 2021 DATE
Sarah Everard PERSON
Clapham Common FAC
Sarah Everard's PERSON
Parliament Square FAC
London AFP PERSON
Getty UK ORG
13 March 2021 DATE
Sarah Everard PERSON
Clapham Common FAC
London GPE
Getty Images ORG
UK GPE
12 March DATE
2021 DATE
Angela Rayner PERSON
the Labour Party ORG
Jonathan Ashworth PERSON
Shadow Health WORK_OF_ART
London GPE
1 percent PERCENT
Thursday DATE
May PA DATE
UK GPE
11 March 2021 DATE
Newhaven GPE
England AFP/ PERSON
UK GPE

10 March 2021 DATE
Great Chart Golf FAC
Leisure in Ashford ORG
UK GPE
9 March 2021 DATE
Kielder Water FAC
Northumberland GPE
the Border Mires ORG
50 year old DATE
the Border Mires in WORK_OF_ART
Northumberland GPE
UK GPE
8 March 2021 DATE
the Jewellery Quarter Academy ORG
Birmingham GPE
the West Midlands LOC
England GPE
first ORDINAL
two months DATE
first ORDINAL
UK GPE
7 March 2021 DATE
NHS ORG
NHS Workers ORG
Unite ORG
Downing Street FAC
London GPE
1% PERCENT
UK GPE
6 March 2021 DATE
Scottish NORP
Ibrox Stadium FAC
UK GPE
March 2021 DATE
Sutton Manor GPE
St Helens PERSON
a clear DATE
Spring day DATE
PA GPE
UK GPE
4 March 2021 DATE
Health ORG
Matt Hancock PERSON
the Centre for Virus Research ORG
Glasgow PA GPE
UK GPE
March 2021 DATE
Exchequer ORG
Rishi Sunak ORG
11 Downing Street ORG

London GPE
the House of Commons ORG
Budget PA UK ORG
2 March 2021 DATE
the Carbis Bay Estate PRODUCT
G7 CARDINAL
Getty UK ORG
1 March 2021 DATE
A J Thompson & Sons ORG
the Romney Marsh ORG
Kent PERSON
the first day DATE
UK GPE
28 CARDINAL
February 2021 DATE
Scarborough GPE
North Yorkshire GPE
UK GPE
27 February 2021 DATE
Tom Moore PERSON
the Armed Forces at Bedford Crematorium ORG
Bedford GPE
EPA ORG
UK GPE
26 February 2021 DATE
New Brighton GPE
Wirral PA UK ORG
25 February 2021 DATE
Shadow PRODUCT
Anneliese NORP
the Institute of Global Prosperity ORG
Labour Party ORG
London GPE
UK GPE
24 February 2021 DATE
Britain GPE
Health ORG
Matt Hancock PERSON
Downing Street FAC
London GPE
Britain GPE
UK GPE
23 CARDINAL
February 2021 DATE
Two CARDINAL
Boscombe GPE
Dorset PA RMT GPE
Mr Grayling ORG
Tory NORP
Network Rail ORG

GTR ORG
Network Rail ORG
Mark Carne PERSON
Queen PERSON
The Department of Transport ORG
BMG ORG
1,490 CARDINAL
Great Britain GPE
5th ORDINAL
8th June DATE
BMG ORG
the British Polling Council ORG
Democrats NORP
today DATE
Social Security ORG
Democrats NORP
years DATE
a couple of years DATE
Social Security ORG
a decade DATE
the present 65 years old DATE
75 years old DATE
Biden PERSON
Social Security ORG
Joe Biden PERSON
The United States Of America GPE
Democrats NORP
Americans NORP
America GPE
Mexico GPE
Tijuana GPE
One CARDINAL
Anna PERSON
Elsa PERSON
Disney ORG
Frozen PERSON
camera Sunday DATE
Reuters ORG
Kim Kyung-Hoon PERSON
Central American NORP
San Diego GPE
U.S. GPE
Kim PERSON
NBC News ORG
Monday DATE
two CARDINAL
One CARDINAL
NBC News ORG
Maria Mesa PERSON
39-year-old DATE

five CARDINAL
Honduras GPE
the Benito Juarez Shelter FAC
Tijuana GPE
Mesa ORG
5-year-old DATE
Saira PERSON
Mesa ORG
3-year-old DATE
James PERSON
One CARDINAL
Kim PERSON
Mesa ORG
five CARDINAL
Louisiana GPE
Kim PERSON
NBC News ORG
Donald Trump PERSON
Trump ORG
Mexico GPE
Migrants PRODUCT
U.S.A. GPE
Border ORG
Congress ORG
WALL ORG
Donald J. Trump PERSON
@realDonaldTrump ORG
November 26, 2018 DATE
Kim PERSON
44-year-old DATE
South Korean NORP
Tokyo GPE
the 16 years DATE
Reuters ORG
2011 DATE
Japan GPE
Kim PERSON
Nov. 14 DATE
Mexico City GPE
American NORP
Sunday DATE
Kim PERSON
El Chaparral ORG
U.S. GPE
Reuters ORG
Kim Kyung-Hoon PERSON
Minamisoma GPE
Japan GPE
April 11, 2011 DATE
Minamisoma PERSON

11 miles QUANTITY
Fukushima PERSON
Kim Kyung-Hoon PERSON
Mexican NORP
about 20 meters QUANTITY
Kim PERSON
a few seconds TIME
Kim PERSON
two CARDINAL
One CARDINAL
Tijuana GPE
Mexicali GPE
Mexico GPE
Nov. 20 DATE
Kim Kyung-Hoon PERSON
Kim PERSON
Kim PERSON
CORRECTION PERSON
Nov. 27, 2018 DATE
7:50 a.m. TIME
One CARDINAL
Gabe Gutierrez PERSON
Tijuana GPE
Corky Siemaszko PERSON
New York City GPE
Rick Egan PERSON
The Salt Lake Tribune ORG
Mitt Romney PERSON
United States GPE
Senate ORG
the State Capitol FAC
Thursday, March 15, 2018 DATE
Mitt Romney's PERSON
2012 DATE
GOP ORG
Utah GPE
U.S. Senate ORG
\$1 million MONEY
Senate ORG
Tuesday DATE
a few hundred thousand dollars MONEY
year-end DATE
\$1.3 million MONEY
\$1 million MONEY
Romney PERSON
\$1.68 million MONEY
April 1 this year DATE
Senate ORG
526,516 MONEY
\$1.15 million MONEY

\$1 million MONEY
Mitt Romney PERSON
Jenny Wilson PERSON
Democratic NORP
Utahns ORG
Romney PERSON
Mitt PERSON
Utah GPE
Wilson ORG
another week DATE
the Utah Democratic Convention ORG
a week later DATE
GOP ORG
Romney PERSON
Larry Meyers PERSON
St. George GPE
one CARDINAL
11 CARDINAL
Republicans NORP
Romney PERSON
April 21 DATE
Utah GPE
about \$15,000 MONEY
about \$4,000 MONEY
Romney PERSON
4,000 CARDINAL
one CARDINAL
Romney PERSON
Mike Kennedy PERSON
Romney PERSON
\$1 million MONEY
millions of dollars MONEY
Utah GPE
Barack] Obama PERSON
Kennedy PERSON
251,143 MONEY
289,000 MONEY
257,488 MONEY
31,535 MONEY
Senate ORG
Tuesday DATE
the Federal Election Commission's ORG
first ORDINAL
Senate ORG
FEC ORG
Tuesday DATE
afternoon TIME
Spencer Cox PERSON
24,478 CARDINAL
28,000 CARDINAL

Romney PERSON
Monday DATE
Romney PERSON
Republican NORP
U.S. Senate ORG
Romney PERSON
Romney PERSON
Romney PERSON
60 percent PERCENT
Republicans NORP
Nov. 6 DATE
60 percent PERCENT
two CARDINAL
Romney PERSON
Romney PERSON
George W. Bush PERSON
8,100 MONEY
8,100 MONEY
Richard Marriott PERSON
Host Hotels ORG
Harris Simmons PERSON
Zions Bancorp ORG
John Cumming PERSON
Powdr Corp. ORG
GETTY - STOCK IMAGE Official ORG
EU ORG
nine CARDINAL
Britain GPE
SUBSCRIBE Invalid PRODUCT
last night TIME
six years DATE
2010 DATE
some 2.2 million CARDINAL
Britain GPE
28.2 million CARDINAL
just 1.1 million CARDINAL
Europe LOC
last year DATE
3.4 million CARDINAL
30.3 million CARDINAL
2.2 million CARDINAL
EU ORG
1.2 million CARDINAL
Anti-EU ORG
years DATE
Britain GPE
last year's DATE
Steven Woolfe PERSON
EU ORG
Theresa May PERSON

British NORP
six years DATE
EU ORG
Brexit PERSON
28 CARDINAL
the European Union ORG
Getty 1 PERSON
29 CARDINAL
the European Union A ORG
the Office for National Statistics ORG
11.2 per cent MONEY
UK GPE
2016 DATE
EU ORG
Steven Woolfe PERSON
761,000 CARDINAL
508,000 CARDINAL
EU ORG
669,000 CARDINAL
510,000 CARDINAL
EU ORG
Eight per cent MONEY
eight CARDINAL
European NORP
EU8 FAC
EU ORG
2004 DATE
Steven Woolfe PERSON
Czech Republic GPE
Estonia GPE
Hungary GPE
Latvia GPE
Lithuania GPE
Poland GPE
Slovakia GPE
Slovenia GPE
EU ORG
11 per cent MONEY
Seven per cent MONEY
eight CARDINAL
EU ORG
One CARDINAL
eight CARDINAL
382,000 CARDINAL
EU ORG
Ukip GPE
Jane Collins PERSON
EU ORG
Brussels GPE
Some 701,000 CARDINAL

UK GPE
more than a quarter DATE
EU ORG
Yesterday DATE
tens of thousands CARDINAL
European NORP
Britain GPE
Theresa May PERSON
UK GPE
Kemi Olunloye PERSON
the United States GPE
Muhammadu Buhari PERSON
Abba Kyari PERSON
Abba Kyari PERSON
Coronavirus GPE
March DATE
Lagos GPE
Thursday DATE
Olunloye PERSON
Buhari PERSON
Cabinet ORG
CARDINAL
👤 ORG
CARDINAL
Abba Kyari PERSON
daily DATE
Osagie Ehanire PERSON
Kyari PERSON
Nigerian NORP
Ehanire ORG
SGF ORG
UK GPE
today DATE
first ORDINAL
a month ago DATE
Today DATE
Nicola ORG
CBE ORG
Chris Snowden PERSON
Julia Goodfellow PERSON
first ORDINAL
around 100 years DATE
UUK ORG
the last 5 years DATE
David Willetts PERSON
Greg Clark PERSON
OECD ORG
Graduate Labour Market ORG
2007 DATE
87.5% PERCENT

UK GPE
HE GPE
4 CARDINAL
10 CARDINAL
Unfinished PERSON
the coming months DATE
3 CARDINAL
firstly ORDINAL
2020 DATE
2009 DATE
secondly ORDINAL
first ORDINAL
2012 DATE
HEPI ORG
BBC/ComRes ORG
only around half CARDINAL
the Small Business, Enterprise and Employment Act ORG
March DATE
Department for Business, Innovation and Skills BIS and ORG
Department for Education DfE ORG
Department for Work and Pensions DWP ORG
National Student Survey ORG
US GPE
the Competition and Markets Authority ORG
Higher Education Policy Institute Hepi ORG
as many as three-quarters CARDINAL
the last 3 years DATE
1992 DATE
Between 2006 and 2015 DATE
around 55% PERCENT
around 45% PERCENT
22,000 MONEY
Last year DATE
CBI /Pearson Education ORG
Skills ORG
47% PERCENT
Excellence Framework PERSON
Parliament ORG
David Willetts PERSON
the Times Higher Education ORG
English LANGUAGE
the Research Excellence Framework ORG
the Teaching Excellence Framework ORG
TEF ORG
TEF ORG
TEF ORG
REF ORG
the Higher Education Funding Council for England ORG
the Quality Assurance Agency ORG
2010 DATE

the Department of Business, Innovation ORG
Skills PRODUCT
the autumn DATE
One CARDINAL
TEF ORG
UK GPE
Last week DATE
2015 DATE
the Higher Education Achievement Report ORG
2:1 degrees QUANTITY
2:1s CARDINAL
UK GPE
300% PERCENT
the 1990s DATE
Over 70% PERCENT
First ORDINAL
2:1 CARDINAL
7 CARDINAL
the past 5 years DATE
just 47% PERCENT
the mid-1990s DATE
2013 DATE
14 CARDINAL
over 50% PERCENT
second ORDINAL
The Higher Education Academy ORG
nearly half CARDINAL
The Teaching Excellence Framework PERSON
the Teaching Excellence Framework ORG
First ORDINAL
2:1 CARDINAL
2:2 CARDINAL
Third ORDINAL
GPA ORG
13 CARDINAL
2:1 CARDINAL
the Teaching Excellence Framework ORG
Student Academic Experience Survey ORG
30.5 hours TIME
14 hours TIME
weekly DATE
Mass Communications and Documentation ORG
as little as 22 hours QUANTITY
GPA ORG
Robert Burgess PERSON
the Grade Point Average Advisory Group ORG
UK GPE
the end of the decade DATE
GPA ORG
Higher Education Academy ORG

2012 DATE
this academic year DATE
2020 CARDINAL
2009 DATE
Les Ebdon PERSON
the Office of Fair Access ORG
Degree Apprenticeships PERSON
2-year DATE
the National Strategy for Access and Student Success ORG
their college years DATE
CNN ORG
Sweden GPE
Sweden GPE
first ORDINAL
two CARDINAL
Sweden GPE
Nicolaigarden GPE
Egalia GPE
Latin LANGUAGE
first ORDINAL
Egalia GPE
the age of 10 DATE
The Global Early Adolescent Study ORG
15 CARDINAL
between the ages of 10 DATE
Sweden GPE
fourth ORDINAL
the Education Act LAW
1998 DATE
Lotta Rajalin PERSON
first ORDINAL
one to CARDINAL
five-year-olds DATE
Stockholm GPE
Rajalin ORG
heroines CARDINAL
Bangladesh GPE
monsoon season DATE
Bangladesh GPE
almost one third CARDINAL
Shidhulai Swanirvar Sangstha PERSON
Each morning TIME
up to CARDINAL
30 CARDINAL
hundreds CARDINAL
10 CARDINAL
UK GPE
Sevenoaks School ORG
UK GPE
VR ORG

three CARDINAL
10 CARDINAL
Bali PERSON
the Green School ORG
Bali GPE
The Green School ORG
three CARDINAL
3 CARDINAL
10 CARDINAL
Ghana GPE
Ghana GPE
over 40 hours TIME
10 CARDINAL
Canada GPE
Canada GPE
U.S. GPE
iPads ORG
Google Classroom ORG
10 CARDINAL
Netherlands GPE
Steve Jobs Schools PERSON
Apple ORG
iPad ORG
Netherlands GPE
Johannesburg GPE
2016 DATE
10 CARDINAL
Sweden GPE
Egalia GPE
Stockholm GPE
Sweden GPE
10 CARDINAL
Singapore GPE
Pepper ORG
last year DATE
Singapore GPE
Pepper ORG
10 CARDINAL
Denmark GPE
Denmark GPE
the Danish Forest and Nature Agency ORG
over 10 percent PERCENT
Danish NORP
10 CARDINAL
USA GPE
New York GPE
2018-19 school year DATE
India GPE
Botswana GPE
Japan GPE

Spain GPE
Rajalin PERSON
CNN ORG
Lotta Rajalin PERSON
Nicolaigarden ORG
Egalia GPE
Rajalin PERSON
two CARDINAL
Rajalin PERSON
Rajalin PERSON
Ben Kenward PERSON
Uppsala University ORG
Sweden GPE
Oxford Brookes University ORG
England GPE
Swedish NORP
'Brainwashing children' However WORK_OF_ART
the years DATE
Swedish NORP
David Eberhard PERSON
CNN ORG
Eberhard PERSON
Rajalin PERSON
Rajalin PERSON
Eberhard PERSON
Sweden GPE
Rajalin PERSON
Philip Hwang PERSON
the University of Gothenburg ORG
Rajalin PERSON
CNN ORG
GETTY - STOCK IMAGE Official ORG
EU ORG
nine CARDINAL
Britain GPE
SUBSCRIBE Invalid PRODUCT
last night TIME
six years DATE
2010 DATE
some 2.2 million CARDINAL
Britain GPE
28.2 million CARDINAL
just 1.1 million CARDINAL
Europe LOC
last year DATE
3.4 million CARDINAL
30.3 million CARDINAL
2.2 million CARDINAL
EU ORG
1.2 million CARDINAL

Anti-EU ORG
years DATE
Britain GPE
last year's DATE
Steven Woolfe PERSON
EU ORG
Theresa May PERSON
British NORP
six years DATE
EU ORG
Brexit PERSON
28 CARDINAL
the European Union ORG
Getty 1 PERSON
29 CARDINAL
the European Union A ORG
the Office for National Statistics ORG
11.2 per cent MONEY
UK GPE
2016 DATE
EU ORG
Steven Woolfe PERSON
761,000 CARDINAL
508,000 CARDINAL
EU ORG
669,000 CARDINAL
510,000 CARDINAL
EU ORG
Eight per cent MONEY
eight CARDINAL
European NORP
EU8 FAC
EU ORG
2004 DATE
Steven Woolfe PERSON
Czech Republic GPE
Estonia GPE
Hungary GPE
Latvia GPE
Lithuania GPE
Poland GPE
Slovakia GPE
Slovenia GPE
EU ORG
11 per cent MONEY
Seven per cent MONEY
eight CARDINAL
EU ORG
One CARDINAL
eight CARDINAL

382,000 CARDINAL
EU ORG
Ukip GPE
Jane Collins PERSON
EU ORG
Brussels GPE
Some 701,000 CARDINAL
UK GPE
more than a quarter DATE
EU ORG
Yesterday DATE
tens of thousands CARDINAL
European NORP
Britain GPE
Theresa May PERSON
UK GPE
Three CARDINAL
four CARDINAL
today DATE
almost half CARDINAL
two CARDINAL
165 CARDINAL
the Royal College of Obstetricians ORG
Gynaecologists NORP
today DATE
almost half CARDINAL
30 minutes TIME
More than half CARDINAL
hours TIME
third ORDINAL
165 CARDINAL
NHS ORG
82 per cent MONEY
Just over 73 CARDINAL
weekday DATE
overnight TIME
10pm to 8am TIME
43 per cent MONEY
89 per cent MONEY
evening TIME
England NHS ORG
Birmingham GPE
Central Manchester University ORG
day DATE
all week DATE
Maureen Treadwell PERSON
the Birth Trauma Association ORG
night TIME
every year DATE
Jonathan Ashworth PERSON

Labour ORG
five-day DATE
Jonathan Ashworth PERSON
Labour ORG
day DATE
night TIME
Tories NORP
seven-day DATE
NHS ORG
five-day DATE
NHS ORG
Elizabeth Duff PERSON
the National Childbirth Trust ORG
2009 DATE
Imperial College London ORG
last year DATE
the weekend DATE
7 per cent MONEY
Cambridge University ORG
2010 DATE
overnight TIME
Scottish NORP
third ORDINAL
Angela Owens PERSON
Ella ORG
today DATE
Angela Owens PERSON
Ella ORG
today DATE
two weeks DATE
Saturday DATE
afternoon TIME
four days DATE
Christmas 2013 DATE
31-year-old DATE
Warrington Hospital ORG
GP ORG
Ella ORG
11pm TIME
Saturday DATE
two CARDINAL
Paul PERSON
Ella ORG
one CARDINAL
ten CARDINAL
Warrington Hospital ORG
12-month DATE
English LANGUAGE
NHS ORG
almost 40 per cent MONEY

2014/15 CARDINAL
24 per cent MONEY
1989 DATE
NHS England ORG
NHS ORG
last year DATE
overnight TIME
hours TIME
Tomorrow DATE
NHS ORG
first ORDINAL
Ofsted ORG
Tesco ORG
59,400 CARDINAL
last year DATE
nearly 119 million CARDINAL
Tesco ORG
4% PERCENT
2015 DATE
one CARDINAL
100 CARDINAL
Tesco ORG
the last financial year DATE
annual DATE
Tesco ORG
Dave Lewis PERSON
today DATE
Tesco ORG
UK GPE
nearly three years DATE
UK GPE
Tesco ORG
2013 DATE
last year DATE
Tesco ORG
2% PERCENT
0.5kg QUANTITY
Lewis PERSON
Unilever ORG
Tesco ORG
2014 DATE
the Global Summit of the Consumer Goods Forum ORG
Tesco ORG
Perfectly Imperfect WORK_OF_ART
February DATE
the end of 2017 DATE
Tesco ORG
this year DATE
future years DATE
millions CARDINAL

Tesco ORG
Dave Lewis PERSON
Neil Hall/REUTERS PERSON
This year DATE
Tesco ORG
Asda ORG
Morrisons PERSON
fifth ORDINAL
the next decade DATE
Coca-Cola ORG
Nestle ORG
the Courtauld Commitment ORG
2025 DATE
the Waste and Resources Action Programme Wrap ORG
1.9m tonnes QUANTITY
UK GPE
every year DATE
Tesco ORG
Richard Swannell PERSON
Wrap ORG
Tesco ORG
UK GPE
2025 DATE
200,000 tonne QUANTITY
UK GPE
WRAP ORG
27-plus-million CARDINAL
UK GPE
2025 DATE
163 CARDINAL
George Soros PERSON
Soros PERSON
Craigslist NORP
Paid Liberal Trolls of America ORG
6 hours TIME
30 MONEY
40 MONEY
70 cents MONEY
1 MONEY
Soros PERSON
Joe Barron PERSON
George Soros PERSON
500 MONEY
Art Tubolls PERSON
163 CARDINAL
Soros PERSON
Deluth GPE
Charlie Kirk PERSON
Turning Point PERSON
Turning Point PERSON

an honest day DATE
NPR ORG
NPR ORG
NPR ORG
NPR ORG
Agree and Continue WORK_OF_ART
NPR ORG
CNN ORG
the United States GPE
the Centers for Disease Control and Prevention ORG
CNN ORG
Jeff Lancashire PERSON
the National Center for Health Statistics ORG
Friday DATE
US GPE
US GPE
daily DATE
daily DATE
CDC ORG
Amazon ORG
Orwell ORG
Nineteen Eighty-Four DATE
the end of last week DATE
Trump ORG
Kellyanne Conway PERSON
Jezebel PERSON
Hannah Arendt PERSON
The Origins of Totalitarianism WORK_OF_ART
1951 DATE
Donald Trump PERSON
November DATE
Jews NORP
first ORDINAL
Nazi NORP
Trump ORG
anti-Jewish NORP
Europe LOC
the 19th century DATE
John Naughton's PERSON
David Runciman's PERSON
Talking Politics ORG
20 years DATE
Trump ORG
Washington GPE
Pennsylvania Avenue FAC
the Women's March EVENT
January DATE
Joshua Lott/AFP/Getty Images PERSON
Two CARDINAL
First ORDINAL

Antisemites NORP
Second ORDINAL
Runciman PERSON
one CARDINAL
Arendt ORG
Griselda PERSON
Arendt GPE
two CARDINAL
Arendt ORG
Germany GPE
1906 DATE
1933 DATE
Palestine GPE
Jewish NORP
Hitler PERSON
1964 DATE
Nazis NORP
Germans NORP
1933 DATE
Jewish NORP
Arendt ORG
Jewish NORP
around one CARDINAL
Paris GPE
German NORP
1937 DATE
New York GPE
1941 DATE
Gurs FAC
France GPE
Holocaust EVENT
Auschwitz ORG
Arendt ORG
New York GPE
1972 DATE
New York Times Co/Getty Images However ORG
the 1960s DATE
Eichmann NORP
Jerusalem GPE
Adolf Eichmann's PERSON
the Final Solution ORG
Jews NORP
Jews NORP
Eichmann PERSON
three minutes TIME
Martin Heidegger PERSON
the 20s DATE
Nazi NORP
Nazi NORP
The Origins of Totalitarianism and the US's WORK_OF_ART

today DATE
Islamophobia ORG
Arendt ORG
Origins PERSON
1958 DATE
The Human Condition ORG
Holocaust EVENT
Arendt ORG
two CARDINAL
First ORDINAL
Greek NORP
Greek NORP
Greeks PERSON
Arendt ORG
one CARDINAL
Trump ORG
Leninist ORG
Trump ORG
Mark Davis PERSON
the Bauman Institute ORG
Leeds GPE
1970 DATE
Downing Street FAC
January DATE
Ben Stansall/AFP/Getty Images Pollock PERSON
one CARDINAL
First ORDINAL
Muslims NORP
today DATE
Hannah Arendt PERSON
Downing Street FAC
Davis PERSON
one CARDINAL
one CARDINAL
Arendt ORG
The Twilight Zone WORK_OF_ART
NASA ORG
Antarctica LOC
the early 1960s DATE
sci-fi TV ORG
the Big Bang GPE
the Daily Star ORG
NASA ORG
Antarctic Impulsive Transient Antenna PRODUCT
ANITA ORG
Antarctica LOC
Earth LOC
Earth LOC
Manoa GPE
ANITA ORG

Earth LOC
the Daily Star ORG
ANITA ORG
Peter Gorham PERSON
the University of Hawaii ORG
Earth LOC
Gorham PERSON
Cornell University ORG
New Scientist ORG
the Big Bang ORG
13.8 billion years ago DATE
two CARDINAL
Ibrahim Safa PERSON
Catholic NORP
Kentucky GPE
Native American NORP
Vietnam GPE
Saturday DATE
Make America Great Again WORK_OF_ART
Covington Catholic High School ORG
Washington GPE
Friday DATE
Nathan Phillips PERSON
the Native American NORP
One CARDINAL
Phillips ORG
Donald Trump PERSON
MAGA ORG
Phillips ORG
Friday DATE
Alyssa Milano PERSON
Chris Evans PERSON
Diocese NORP
Nathan Phillips ORG
Native Americans NORP
Phillips PERSON
Church ORG
Covington ORG
Joe Meyer PERSON
Democrat NORP
64-year-old DATE
Phillips ORG
Nebraska GPE
Omaha GPE
The Washington Post ORG
Shoshana PERSON
nearly four years ago DATE
Phillips ORG
Phillips ORG
annual DATE

Arlington National Cemetery ORG
Native American NORP
Native American NORP
Standing Rock ORG
2016-2017 DATE
North Dakota GPE
Democratic NORP
US GPE
Deb Haaland PERSON
New Mexico's GPE
Laguna Pueblo PERSON
Twitter PERSON
Phillips ORG
Reuters ORG
Associated Press ORG
Britain GPE
0.7 per cent MONEY
last year DATE
£11.7 billion MONEY
£1 billion MONEY
the next two years DATE
the European Union ORG
yesterday DATE
The Department for International Development Dfid ORG
Britain GPE
EU ORG
UK GPE
second ORDINAL
yesterday DATE
Britain GPE
0.7 per cent MONEY
last year DATE
£11.7 billion MONEY
Jonathan Ashworth PERSON
Labour's Shadow Health ORG
today DATE
3-4 months DATE
Labour ORG
Britain GPE
3-4 months DATE
Labour ORG
an additional £25 million MONEY
Labour ORG
National Child Health Fund ORG
Britain GPE
Today DATE
Labour ORG
Jonathan Ashworth PERSON
Health Visitor Programme ORG
2015 DATE

Between 2016/17 CARDINAL
2017/18 DATE
£55.2 million MONEY
0 CARDINAL
this Tory Government ORG
8,244 CARDINAL
NHS ORG
December 2017 DATE
August 2013 DATE
10,309 CARDINAL
October 2015 DATE
more than 2,065 CARDINAL
20% PERCENT
just over two years DATE
12% PERCENT
a New Birth Visit ORG
17% PERCENT
the South West LOC
England GPE
17% PERCENT
6-8 week DATE
London GPE
1/3 CARDINAL
25% PERCENT
one year DATE
12 CARDINAL
London GPE
44% PERCENT
90% PERCENT
North East LOC
two and a half year DATE
just 64% PERCENT
London GPE
73% PERCENT
the East of England LOC
Jonathan Ashworth PERSON
today DATE
Infant Feeding PERSON
a Labour Government ORG
the Coalition Government ORG
UNICEF ORG
Scotland GPE
Northern Ireland GPE
70% PERCENT
the year 2030 DATE
Jonathan Ashworth PERSON
Labour's Shadow Health ORG
London GPE
Michael Marmot PERSON
UK GPE

70th ORDINAL
NHS ORG
David Cameron PERSON
Theresa May PERSON
more than 20 percent PERCENT
just over two years DATE
England GPE
UK GPE
Health Visitors ORG
3-4 months DATE
£25 million MONEY
National Child Health Fund ORG
20 per cent MONEY
100 per cent MONEY
Rainsy PERSON
Cambodia GPE
Sam Rainsy C PERSON
L GPE
seven CARDINAL
CNRP ORG
Cambodia GPE
Sam Rainsy C PERSON
L GPE
seven CARDINAL
CNRP ORG
Facebook Government ORG
the Phnom Penh Municipal Court's ORG
Sam Rainsy PERSON
eight CARDINAL
Ministry of Justice ORG
Chin Malin PERSON
yesterday DATE
Duch Sok Sarin PERSON
Monday DATE
Rainsy PERSON
25 years DATE
Mu Sochua PERSON
Eng Chhai Eang PERSON
22 years DATE
six CARDINAL
20 years DATE
Rainsy PERSON
Tioulong Saumura PERSON
Ou Chanrith PERSON
Ho Vann PERSON
Men Thavarin GPE
Nuth Romduol ORG
Kingdom GPE
November 9, 2019 DATE
Rainsy PERSON

Cambodian NORP
Hun Sen PERSON
Cambodian NORP
Rainsy PERSON
Hun Sen PERSON
Cambodia GPE
CNRP ORG
Malin PERSON
Malin PERSON
CNRP ORG
Cambodia GPE
130 CARDINAL
the past year DATE
nine CARDINAL
CNRP ORG
The US Embassy ORG
Phnom Penh GPE
yesterday DATE
nine CARDINAL
Cambodian NORP
American NORP
more than 130 CARDINAL
Cambodia GPE
2022 DATE
Cambodian People's Party ORG
Sok Eysan PERSON
yesterday DATE
CNRP ORG
2022 DATE
2023 CARDINAL
Commune and National Elections ORG
America GPE
Christian NORP
Americans NORP
Christianity NORP
Nazi Germany GPE
New Zealand GPE
Donald Trump PERSON
Executive Order PERSON
66 CARDINAL
today DATE
the United States of America GPE
IRS ORG
all these years DATE
Americans NORP
America GPE
Trump ORG
Executive Order PERSON
Kafka PERSON
Kafka PERSON

Kafka PERSON
thirty years DATE
Today DATE
hundreds of millions MONEY
two CARDINAL
this late date DATE
1988 DATE
the past thirty years DATE
the previous two centuries DATE
another election year DATE
Netflix GPE
one CARDINAL
the Republican Party's ORG
more than two CARDINAL
less than two CARDINAL
the past three decades DATE
zero CARDINAL
the next three decades DATE
I.P.C.C. GPE
last month DATE
Scientific American NORP
ten thousand CARDINAL
the coming century DATE
two degrees QUANTITY
at least two CARDINAL
first ORDINAL
Nature GPE
thousands CARDINAL
New York City GPE
Texans NORP
Kafkaesque NORP
the European Union's ORG
Indonesia GPE
American NORP
China GPE
COVID-19 ORG
Officially GPE
China GPE
nearly 82,000 CARDINAL
around 3,300 CARDINAL
each day DATE
China GPE
Wuhan GPE
11 million CARDINAL
the United States GPE
nearly 500,000 CARDINAL
more than 18,000 CARDINAL
China GPE
China GPE
nearly 21 million CARDINAL

January DATE
February DATE
China Mobile Ltd. ORG
nearly 7.25 million CARDINAL
China GPE
Hong Kong Ltd. ORG
7.8 million CARDINAL
January and February DATE
China Telecom Corp. ORG
5.6 million CARDINAL
February DATE
the Associated Press ORG
China GPE
Tang Jinyuan PERSON
China GPE
the Epoch Times ORG
China GPE
Samantha Hoffman PERSON
the Australian Strategic Policy Institute ORG
Hoffman PERSON
the Associated Press ORG
Lunar New Year holidays EVENT
Bloomberg PERSON
Hoffman PERSON
China GPE
U.S. GPE
China GPE
the New York Times ORG
Fortune Magazine ORG
Hoffman PERSON
China GPE
China GPE
Hoffman PERSON
the United States GPE
Chinese NORP
Business Insider ORG
Beijing GPE
Hoffman PERSON
China GPE
Chinese Communist] Party ORG
Hoffman PERSON
Hoffman PERSON
China GPE
ten CARDINAL
China GPE
Hoffman PERSON
U.S. GPE
U.S. GPE
State ORG
Michael Pompeo PERSON

China GPE
Mike Pence PERSON
CNN ORG
America GPE
Hoffman PERSON
China GPE
Hoffman PERSON
Chinese Communist] Party ORG
YUKON DELTA NATIONAL WILDLIFE REFUGE ORG
Alaska GPE
Arctic LOC
Woods Hole Research Center ORG
a few feet QUANTITY
tens or even hundreds CARDINAL
the atmosphere centuries ago DATE
as much as 1.7 degrees QUANTITY
Fahrenheit WORK_OF_ART
the next several centuries DATE
Alaska GPE
350 miles QUANTITY
the Arctic Circle LOC
two CARDINAL
Yukon ORG
Kuskokwim PERSON
three feet QUANTITY
less than half CARDINAL
Max Holmes PERSON
Alaska GPE
Sarah Ludwig PERSON
Woods Hole ORG
Laura Jardine PERSON
Jardine PERSON
Stash Wislocki PERSON
John Schade PERSON
July DATE
Woods Hole LOC
13 CARDINAL
60 miles QUANTITY
Bethel ORG
6,000 CARDINAL
Woods Hole FAC
Sue Natali PERSON
Woods Hole LOC
Alaska GPE
more than 2,100 feet QUANTITY
Vladimir E. Romanovsky PERSON
the University of Alaska, Fairbanks ORG
65 feet QUANTITY
3 degrees Celsius QUANTITY
about 5.5 degrees QUANTITY

Fahrenheit GPE
over decades DATE
one CARDINAL
minus 8 degrees Celsius QUANTITY
Minus 3 LAW
zero CARDINAL
Romanovsky PERSON
the middle of the century DATE
Alaska GPE
Romanovsky PERSON
Bethel GPE
about 4 degrees QUANTITY
the mid-20th century DATE
Bethel LOC
winter DATE
spring DATE
years DATE
Sarah Ludwig PERSON
Woods Hole ORG
Laura Jardine PERSON
Jardine PERSON
Stash Wislocki PERSON
John Schade PERSON
Sarah Ludwig PERSON
Woods Hole ORG
Laura Jardine PERSON
Jardine PERSON
Stash Wislocki PERSON
John Schade Parts PERSON
the 1970s DATE
the summer of 2015 DATE
Bethel GPE
Natali PERSON
one CARDINAL
the century DATE
about 1.5 billion tons QUANTITY
annual DATE
the United States GPE
Alaskan NORP
earlier this year DATE
Alaska GPE
Holmes PERSON
Siberia LOC
Canada GPE
over thousands and thousands CARDINAL
Correction August 23, 2017 EVENT
1.5 billion tons QUANTITY
the century DATE
1.5 billions tons QUANTITY
August 25, 2017 DATE

one CARDINAL
the University of Alaska, Fairbanks ORG
Vladimir E. Romanovsky PERSON
Ramonovsky PERSON
Horowitz PERSON
Muhammadu Buhari PERSON
Monday DATE
Lagos GPE
Ogun GPE
Abuja GPE
last 14 days DATE
Monday DATE
night TIME
14 days DATE
Nigerians NORP
Nigerians NORP
H.E. MUHAMMADU PERSON
BUHARI GPE
THE FEDERAL REPUBLIC OF NIGERIA GPE
19 CARDINAL
THE STATE HOUSE ORG
MONDAY DATE
APRIL DATE
2020 1 DATE
Fellow Nigerians 2. ORG
Sunday, 29th March, 2020 DATE
Lagos GPE
Ogun States GPE
the Federal Capital Territory ORG
an initial period of DATE
fourteen days DATE
Monday, 30th March 2020 DATE
3 CARDINAL
State Governments ORG
4. CARDINAL
5. CARDINAL
COVID-19 ORG
6 CARDINAL
Coronavirus LOC
COVID-19 ORG
the Christian Association of Nigeria ORG
the Nigerian Supreme Council for Islamic Affairs ORG
NSCIA ORG
9 CARDINAL
10 CARDINAL
11 CARDINAL
these 14 days DATE
12 CARDINAL
13 CARDINAL
92% PERCENT

1,500 CARDINAL
7,000 CARDINAL
Healthcare ORG
NCDC ORG
19 CARDINAL
15 CARDINAL
Abuja GPE
today DATE
some 1,000 CARDINAL
16. CARDINAL
State Governments ORG
17 CARDINAL
the coming weeks DATE
18 CARDINAL
19 CARDINAL
Lagos GPE
Ogun States GPE
the Federal Capital Territory ORG
20. CARDINAL
the coming weeks DATE
21 CARDINAL
COVID-19 ORG
22 CARDINAL
Nigeria GPE
23 CARDINAL
30th March 2020 DATE
over 780,000 CARDINAL
24 CARDINAL
Yesterday DATE
COVID-19 PERSON
one million CARDINAL
eight hundred and fifty thousand CARDINAL
two weeks DATE
25 CARDINAL
the last fourteen days alone DATE
over 70,000 CARDINAL
26 CARDINAL
27 CARDINAL
Nigeria GPE
131 CARDINAL
COVID-19 ORG
12 CARDINAL
30th March 2020 DATE
two CARDINAL
28 CARDINAL
This morning TIME
Nigeria GPE
323 CARDINAL
twenty CARDINAL
ten CARDINAL

Lagos State GPE
54% PERCENT
Nigeria GPE
FCT ORG
two CARDINAL
71% PERCENT
Nigeria GPE
29 CARDINAL
two CARDINAL
30 CARDINAL
Lagos GPE
FCT ORG
31 CARDINAL
States GPE
32 CARDINAL
The National Centre for Disease Control ORG
33 CARDINAL
Nigerians NORP
34. CARDINAL
the Quarantine Order ORG
COVID-19 ORG
35 CARDINAL
COVID-19 ORG
Today DATE
37 CARDINAL
2 CARDINAL
First ORDINAL
Nigerians NORP
second ORDINAL
38. CARDINAL
Report ORG
the Presidential Task Force ORG
Lagos GPE
Ogun States GPE
FCT ORG
another 14 days DATE
11:59 pm TIME
Monday, 13th of April, 2020 DATE
39 CARDINAL
Mosques FAC
Makkah ORG
Madina GPE
St. Peter's Square GPE
Notre Dame FAC
Paris GPE
Easter Mass FAC
less than 10 CARDINAL
India GPE
Italy GPE
France GPE

40 CARDINAL
41 CARDINAL
42 CARDINAL
45 CARDINAL
daily DATE
46 CARDINAL
47. CARDINAL
the past two weeks DATE
48 CARDINAL
2.6 million CARDINAL
3.6 million CARDINAL
the next two weeks DATE
an additional one million CARDINAL
the end of this week DATE
49 DATE
50 CARDINAL
Fellow Nigerians PERSON
51 CARDINAL
State Governors ORG
the Federal Government ORG
52 CARDINAL
the coming weeks DATE
the Federal Government ORG
the Presidential Task Force ORG
54 CARDINAL
55 CARDINAL
the Ministers of Industry, Trade and Investment, Communication ORG
Digital Economy, Science and Technology ORG
Transportation ORG
Interior ORG
Health, Works and Housing, Labour and Employment and Education ORG
Nigerian NORP
COVID-19 ORG
56 CARDINAL
the Presidential Economic Advisory Council and Economic Sustainability
Committee ORG
National Food Security Council ORG
the Presidential Task Force ORG
COVID-19 ORG
2020 DATE
the Presidential Task Force ORG
COVID-19 ORG
Fellow Nigerians PERSON
God PERSON
the Federal Republic of Nigeria GPE
COVID-19 PERSON
The Centers for Disease Control ORG
COVID-19 ORG
99.99 percent PERCENT
Plexiglas PERSON

American NORP
one CARDINAL
U.S. GPE
the Centers for Disease Control ORG
Anthony Fauci PERSON
Chicago GPE
YouTube ORG
Twitter PERSON
more than 26,000 CARDINAL
YouTube ORG
Pennsylvania GPE
Tom Wolf PERSON
Faking 'Science' WORK_OF_ART
Achieve Political Goals ORG
's NORP
The Centre for Evidence-Based Medicine ORG
Oxford University ORG
six CARDINAL
ILI LOC
Oxford NORP
two decades DATE
more than 1,600 CARDINAL
3 percent PERCENT
the New England Journal of Medicine ORG
the National Center for Biotechnology Information ORG
Cambridge University Press ORG
Oxford Clinical Infectious Diseases ORG
Influenza Journal ORG
two CARDINAL
two CARDINAL
Graphs PERSON
Austria GPE
one CARDINAL
first ORDINAL
about 10 days DATE
four CARDINAL
Austria GPE
Germany GPE
French NORP
around 1,000 percent PERCENT
daily DATE
one CARDINAL
Spain GPE
French NORP
Spain GPE
zero CARDINAL
Europe LOC
Spain GPE
around 1,500 percent PERCENT
three months DATE

the United Kingdom GPE
around 1,500 percent PERCENT
Europe LOC
Belgium GPE
British NORP
Italy GPE
Ireland GPE
Portugal GPE
Israel GPE
the United States GPE
Americans NORP
Germans NORP
Europe LOC
U.S. GPE
California GPE
June DATE
more than 300 percent PERCENT
four months later DATE
Hawaii GPE
one CARDINAL
U.S. GPE
almost 1,000 percent PERCENT
Texas GPE
Georgia GPE
The Food and Drug Administration ORG
CDC ORG
Sweden GPE
Georgia GPE
first ORDINAL
COVID-19 ORG
Nobel WORK_OF_ART
COVID ORG
Martin Kulldorff PERSON
Harvard Medical School ORG
COVID ORG
300 years DATE
the Age of Enlightenment EVENT
AdvertisementsOne day DATE
the February 3 EVENT
Iowa GPE
first ORDINAL
fifty CARDINAL
American NORP
Twitter PERSON
a confusing night TIME
Iowa GPE
One CARDINAL
first ORDINAL
Pete Buttigieg PERSON
Iowa GPE

at least one CARDINAL
Pete Buttigieg's PERSON
Atlantic LOC
February 3 2020 DATE
BURLINGTON GPE
Iowa GPE
Democratic NORP
Iowans NORP
hours TIME
the end of the night DATE
Joe Biden PERSON
Elizabeth Warren PERSON
Bernie Sanders PERSON
Sandy Dockendorff PERSON
tonight TIME
62-year-old DATE
Danville ORG
late January 2020 DATE
Democrats NORP
Iowa GPE
first ORDINAL
Dockendorff PERSON
Iowa GPE
Eastern ORG
the Iowa State Democratic Party ORG
Twitter PRODUCT
Iowa GPE
#1 CARDINAL
Robby Mook PERSON
Hillary Clinton's PERSON
2016 DATE
Iowa GPE
Mook PERSON
Monday night TIME
Iowa GPE
Shadow PRODUCT
Mook PERSON
January 29 2020 DATE
the Des Moines Register ORG
Mook PERSON
Iowa GPE
fall 2018 DATE
Harvard ORG
night TIME
Robby Mook PERSON
Matt Rhodes PERSON
Mook PERSON
2016 DATE
Hillary Clinton PERSON
Rhodes GPE

Mitt Romney's PERSON
2012 DATE
2018 DATE
days DATE
Russian NORP
Clinton PERSON
DNC ORG
the Democratic Congressional Campaign Committee ORG
2016 DATE
Mook PERSON
February 4 2020 DATE
Clinton PERSON
Iowa GPE
Nevada GPE
February 3 2020 DATE
Iowa GPE
Iowa GPE
Democrats NORP
Hillary Clinton PERSON
2016 DATE
the Nevada Democratic Party ORG
February 4 2020 DATE
Feb. 22 DATE
2020 CARDINAL
Jimmy Hickey PERSON
the Des Moines Register ORG
Tuesday DATE
Gerard Niemira PERSON
Krista Davis PERSON
Clinton PERSON
2016 DATE
Shadow PRODUCT
Iowa GPE
the Democratic National Committee ORG
DNC ORG
Bernie Sanders ORG
2016 DATE
Bernie Sanders PERSON
2016 DATE
Iowa GPE
2020 DATE
February 3 2020 DATE
Associated Press ORG
Democrats NORP
DNC ORG
Bernie Sanders PERSON
Hillary Clinton PERSON
2016 DATE
Iowa GPE
Nevada GPE

Democratic NORP
Feb. 22 DATE
three CARDINAL
two CARDINAL
Iowa GPE
Sanders ORG
2016 CARDINAL
December 2017 DATE
Des Moines Register ORG
2020 DATE
Iowans NORP
2020 DATE
Iowa GPE
first ORDINAL
Democratic NORP
decades DATE
2020 DATE
A Democratic National Committee ORG
the Unity Reform Commission ORG
December 2017 DATE
Iowa GPE
five decades ago DATE
DNC ORG
Tom Perez PERSON
Perez PERSON
2016 DATE
Jeff Weaver PERSON
2016 DATE
Jeff Weaver PERSON
2016 CARDINAL
Martin O'Malley PERSON
Iowa GPE
0.6 percent PERCENT
Iowa GPE
at least two CARDINAL
DNC ORG
2016 CARDINAL
Bernie Sanders PERSON
Hillary Clinton's PERSON
Sanders ORG
Weaver ORG
DNC ORG
2020 DATE
Iowa GPE
Iowa GPE
#3 CARDINAL
Iowa GPE
Democratic Party ORG
50 percent PERCENT
5PM CARDINAL

February 4 2020 DATE
the Democratic Party ORG
the morning TIME
Iowa GPE
25% PERCENT
the Iowa Democratic Party ORG
The Iowa Democratic Party ORG
three CARDINAL
1:14 PM EST TIME
February 4 2020 DATE
NPR ORG
Tuesday DATE
afternoon TIME
February 4 2020 DATE
Democratic Party ORG
5 p.m. ET TIME
February 4 2020 DATE
Tuesday DATE
February 4 2020 DATE
Troy Price ORG
NPR ORG
Christine Brown PERSON
late January 2020 DATE
the Asian/Pacific Islander EVENT
the Iowa Democratic Party ORG
first ORDINAL
the evening TIME
January 31 2020 DATE
Brown PERSON
NPR ORG
Rachel Martin PERSON
Brown PERSON
February 3 2020 DATE
Iowa GPE
Elesha Gayman PERSON
Scott County GPE
PIN ORG
Des Moines GPE
Tom Courtney PERSON
Courtney PERSON
several hours TIME
NPR ORG
Nevada Democratic Party ORG
February 22 2020 DATE
NV Dems ORG
Iowa GPE
last night TIME
Nevada GPE
February 22nd DATE
2020 CARDINAL

Iowa GPE
2016 DATE
Iowa GPE
Iowa GPE
Twitter PRODUCT
2016 DATE
the day DATE
Iowa GPE
Shadow PRODUCT
Iowa GPE
Democratic Party ORG
Iowa GPE
2020 DATE
day DATE
Invalid ORG
Yesterday DATE
UK GPE
Fathers 4 Justice ORG
Hallmark GPE
ComRes ORG
more than 1000 CARDINAL
37 per cent MONEY
UK GPE
2.3 million CARDINAL
18 DATE
one CARDINAL
five CARDINAL
20 per cent MONEY
22 per cent MONEY
One third 32 CARDINAL
Matt O'Connor PERSON
Fathers 4 Justice ORG
Telegraph ORG
daily DATE
millions CARDINAL
Women ORG
ComRes ORG
nearly one CARDINAL
six CARDINAL
17 per cent MONEY
quarter 27 DATE
2001 DATE
750,000 CARDINAL
roughly one CARDINAL
four CARDINAL
10 CARDINAL
UK GPE
today DATE
first ORDINAL
a month ago DATE

Today DATE
Nicola ORG
CBE ORG
Chris Snowden PERSON
Julia Goodfellow PERSON
first ORDINAL
around 100 years DATE
UUK ORG
the last 5 years DATE
David Willetts PERSON
Greg Clark PERSON
OECD ORG
Graduate Labour Market ORG
2007 DATE
87.5% PERCENT
UK GPE
HE GPE
4 CARDINAL
10 CARDINAL
Unfinished PERSON
the coming months DATE
3 CARDINAL
firstly ORDINAL
2020 DATE
2009 DATE
secondly ORDINAL
first ORDINAL
2012 DATE
HEPI ORG
BBC/ComRes ORG
only around half CARDINAL
the Small Business, Enterprise and Employment Act ORG
March DATE
Department for Business, Innovation and Skills BIS and ORG
Department for Education DfE ORG
Department for Work and Pensions DWP ORG
National Student Survey ORG
US GPE
the Competition and Markets Authority ORG
Higher Education Policy Institute Hepi ORG
as many as three-quarters CARDINAL
the last 3 years DATE
1992 DATE
Between 2006 and 2015 DATE
around 55% PERCENT
around 45% PERCENT
22,000 MONEY
Last year DATE
CBI /Pearson Education ORG
Skills ORG

47% PERCENT
Excellence Framework PERSON
Parliament ORG
David Willetts PERSON
the Times Higher Education ORG
English LANGUAGE
the Research Excellence Framework ORG
the Teaching Excellence Framework ORG
TEF ORG
TEF ORG
TEF ORG
REF ORG
the Higher Education Funding Council for England ORG
the Quality Assurance Agency ORG
2010 DATE
the Department of Business, Innovation ORG
Skills PRODUCT
the autumn DATE
One CARDINAL
TEF ORG
UK GPE
Last week DATE
2015 DATE
the Higher Education Achievement Report ORG
2:1 degrees QUANTITY
2:1s CARDINAL
UK GPE
300% PERCENT
the 1990s DATE
Over 70% PERCENT
First ORDINAL
2:1 CARDINAL
7 CARDINAL
the past 5 years DATE
just 47% PERCENT
the mid-1990s DATE
2013 DATE
14 CARDINAL
over 50% PERCENT
second ORDINAL
The Higher Education Academy ORG
nearly half CARDINAL
The Teaching Excellence Framework PERSON
the Teaching Excellence Framework ORG
First ORDINAL
2:1 CARDINAL
2:2 CARDINAL
Third ORDINAL
GPA ORG
13 CARDINAL

2:1 CARDINAL
the Teaching Excellence Framework ORG
Student Academic Experience Survey ORG
30.5 hours TIME
14 hours TIME
weekly DATE
Mass Communications and Documentation ORG
as little as 22 hours QUANTITY
GPA ORG
Robert Burgess PERSON
the Grade Point Average Advisory Group ORG
UK GPE
the end of the decade DATE
GPA ORG
Higher Education Academy ORG
2012 DATE
this academic year DATE
2020 CARDINAL
2009 DATE
Les Ebdon PERSON
the Office of Fair Access ORG
Degree Apprenticeships PERSON
2-year DATE
the National Strategy for Access and Student Success ORG
their college years DATE
years DATE
November 8, 2016 DATE
New Hampshire's GPE
U.S. Senate Seat ORG
New Hampshire's GPE
four CARDINAL
New Hampshire GPE
one CARDINAL
fifteen CARDINAL
same-day DATE
election day DATE
same-day DATE
U.S. GPE
New Hampshire GPE
Massachusetts GPE
Vermont GPE
Democrat NORP
New Hampshire GPE
New Hampshire's GPE
the Granite State ORG
the New Hampshire House of Representatives ORG
November 2016 DATE
6,540 CARDINAL
New Hampshire GPE
State ORG

New Hampshire GPE
New Hampshire GPE
60 days DATE
New Hampshire GPE
6,540 CARDINAL
New Hampshire GPE
no later than January 7, 2017 DATE
August 30, 2017 DATE
nearly ten months DATE
only 1,014 CARDINAL
6,540 CARDINAL
New Hampshire GPE
5,526 CARDINAL
New Hampshire GPE
5,526 CARDINAL
only 213 CARDINAL
New Hampshire GPE
5,313 CARDINAL
New Hampshire GPE
New Hampshire GPE
New Hampshire GPE
State ORG
5,513 CARDINAL
two CARDINAL
Republican NORP
U.S. GPE
Kelly Ayotte PERSON
Maggie Hassan PERSON
Hassan PERSON
1,017 CARDINAL
5,313 CARDINAL
59.2 percent PERCENT
Hassan PERSON
Democrat NORP
New Hampshire's GPE
four CARDINAL
Hillary Clinton PERSON
Clinton PERSON
New Hampshire GPE
only 2,732 CARDINAL
74.8 percent PERCENT
5,513 CARDINAL
Clinton PERSON
New Hampshire GPE
three CARDINAL
four CARDINAL
Senate ORG
52 CARDINAL
Republican NORP
Democrat NORP

Senate ORG
53-47 TIME
Obamacare ORG
Kris W. Kobach PERSON
State ORG
Kansas GPE
Arizona GPE
10 CARDINAL
Obama's ORG
2012 DATE
2017 DATE
Trump PERSON
the Presidential Commission on Election Integrity ORG
Kansas GPE
Miami Beach GPE
Bruce A. Mowry PERSON
Miami Beach GPE
Biscayne Bay PERSON
Miami Beach GPE
at least \$400 million MONEY
2018 DATE
Miami-Dade County GPE
billions CARDINAL
Harvey Ruvin PERSON
Miami-Dade County GPE
Florida GPE
a half-century DATE
Republican NORP
Democrats NORP
James C. Cason PERSON
Republican NORP
Coral Gables ORG
hundreds CARDINAL
coming years DATE
Cason PERSON
South Florida LOC
Elisa Granato PERSON
first ORDINAL
Oxford ORG
first ORDINAL
Europe LOC
two days DATE
Elisa PERSON
few hours TIME
Elisa Granato PERSON
two CARDINAL
Four CARDINAL
four CARDINAL
Elisa Granato PERSON
BBC ORG

Elisa PERSON
four CARDINAL
Nearly 99 CARDINAL
Indonesian NORP
780 CARDINAL
98.9 per cent MONEY
just 4.1 CARDINAL
Covid-19 ORG
One CARDINAL
Anglia Ruskin University ORG
Cambridge GPE
European NORP
The National Institute for Health and Care Excellence ORG
as early as next week DATE
Vitamin D PERSON
the University of East Anglia ORG
May DATE
million CARDINAL
100,000 CARDINAL
Asian NORP
Indonesian NORP
five CARDINAL
Prabowo Raharusuna PERSON
April DATE
10 CARDINAL
One CARDINAL
five CARDINAL
British NORP
one CARDINAL
six CARDINAL
1billion CARDINAL
months DATE
the Scientific Advisory Committee on Nutrition ORG
VITAMIN ORG
Asian NORP
NHS ORG
African NORP
African-Caribbean NORP
Asian NORP
daily DATE
the year DATE
Vitamin D PERSON
BAME PERSON
UK GPE
William Henley PERSON
University of Exeter ORG
MailOnline ORG
COVID-19 ORG
UK GPE
European NORP

winter months DATE
African NORP
African-Caribbean NORP
Asian NORP
Boris Johnson PERSON
Tory PERSON
two-metre QUANTITY
Culture NORP
Oliver Dowden PERSON
50 CARDINAL
Friday DATE
More than 1,600 CARDINAL
months DATE
2.2million CARDINAL
England GPE
100-day DATE
Vitamin D PERSON
as little as 3p PERCENT
Public Health England ORG
April DATE
Adrian Martineau PERSON
Queen Mary University ORG
London GPE
Vitamin PERSON
Guardian ORG
last night TIME
the University of Surrey ORG
the British Medical Journal ORG
last month DATE
Lee Smith PERSON
Anglia Ruskin's PERSON
75 per cent MONEY
D. NORP
Public Health England ORG
NHS ORG
The Institute of Medicine ORG
US GPE
100 CARDINAL
Dan PERSON
the Wisconsin Elections Commission ORG
this November DATE
February 3, 2021 Perspective DATE
Dan O'Donnell Calling PERSON
November DATE
these days DATE
One CARDINAL
U.S. GPE
Capitol FAC
Wisconsin GPE
The Wisconsin Elections Commission ORG

WEC ORG
234,000 CARDINAL
Kanye West PERSON
the Green Party ORG
Joe Biden PERSON
Milwaukee GPE
Dane County GPE
Madison PERSON
Biden PERSON
WEC ORG
Election Data Report PRODUCT
November DATE
nearly zero CARDINAL
Just 4,270 CARDINAL
1,969,274 CARDINAL
0.2% PERCENT
November DATE
the spring 2016 DATE
four years ago DATE
2.5% PERCENT
first ORDINAL
0.07% PERCENT
1,434 CARDINAL
0.05% PERCENT
1,045 CARDINAL
0.002% PERCENT
just 42 CARDINAL
1.8% PERCENT
just seven months earlier DATE
Wisconsin GPE
spring DATE
1,101,474 CARDINAL
78% PERCENT
November DATE
78% PERCENT
hundreds of thousands CARDINAL
Wisconsinites NORP
April 2016 DATE
2.5% PERCENT
1.4% PERCENT
November DATE
2020 DATE
April 2020 DATE
1.8% PERCENT
0.2% PERCENT
November 2018 DATE
Milwaukee GPE
Tony Evers PERSON
Scott Walker PERSON
0.2% PERCENT

two CARDINAL
Republicans NORP
Donald Trump PERSON
the Wisconsin Elections Commission ORG
2016 DATE
WEC ORG
2018 DATE
2020 CARDINAL
two CARDINAL
Democrat NORP
Republican NORP
the 23 June DATE
Britain GPE
Britain GPE
Europe LOC
Britain GPE
Europe LOC
Britain GPE
Europe LOC
Almost half CARDINAL
Europe LOC
Centre for Economics and Business Research ORG
up to four million CARDINAL
British NORP
Europe LOC
Britain GPE
26.5bn MONEY
EU ORG
the last few years DATE
BMW ORG
7,000 CARDINAL
Oxford GPE
Birmingham GPE
Swindon ORG
UK GPE
Europe LOC
88 per cent MONEY
EU ORG
the Bank of England ORG
Europe LOC
Europe LOC
Europe LOC
Erasmus PRODUCT
Britain GPE
Europe LOC
a year DATE
Britain GPE
Europe LOC
EU ORG
French NORP

German NORP
10 per cent MONEY
Europe LOC
Europe LOC
One CARDINAL
London GPE
2007 DATE
Italy GPE
Britain GPE
the European Arrest Warrant ORG
EU ORG
over 5,000 CARDINAL
EU ORG
2010 DATE
European NORP
Britain GPE
EU ORG
the United Nations ORG
Nato ORG
EU ORG
Russia GPE
Ukraine GPE
the Horn of Africa LOC
British NORP
1bn ORDINAL
West Africa GPE
Europe LOC
first ORDINAL
EU ORG
Europe LOC
Norway GPE
Switzerland GPE
Europe LOC
Russia GPE
Europe LOC
EU ORG
EU ORG
thousands CARDINAL
Europe LOC
Europe LOC
Britain GPE
British NORP
Outers PRODUCT
Europe LOC
EU ORG
790,000 CARDINAL
UK GPE
2030 DATE
58bn MONEY
Government ORG

Britain GPE
Europe LOC
Europe LOC
Europe LOC
Britain GPE
Europe LOC
Europe LOC
British NORP
Straw ORG
Britain Stronger ORG
Europe LOC
Biden PERSON
GEORGIA GPE
Donald Trump PERSON
2015 DATE
Muslims NORP
the United States GPE
Europe LOC
ISIS ORG
weekly DATE
hundreds CARDINAL
85 CARDINAL
Paris GPE
German NORP
Christian NORP
Islam ORG
Islam ORG
the United States GPE
Georgia GPE
Muslim NORP
Jason Spencer PERSON
Wednesday DATE
Spencer PERSON
Islamic NORP
Spencer PERSON
Islamic NORP
the State of GPE
Georgia GPE
Spencer PERSON
WSB-TV ORG
Atlanta GPE
the First Amendment LAW
Islam ORG
Christians NORP
Bible WORK_OF_ART
Quran GPE
Quran GPE
Allah GPE
the Last Day DATE
His Messenger PERSON

Islam ORG
Jews NORP
Christians NORP
Jizya LOC
Allah GPE
the Last Day DATE
His Messenger PERSON
Islam ORG
Jews NORP
Christians NORP
Jizya LOC
Quran GPE
Unbelievers PERSON
Allah ORG
Liberals NORP
Christian NORP
Spencer PERSON
Liberals ORG
the United States GPE
Georgia GPE
Islam ORG
France GPE
Belgium GPE
Italy GPE
Spain GPE
Switzerland GPE
American NORP
Trump PERSON
American NORP
Control of Infectious Diseases ORG
41 CARDINAL
the House of Representatives ORG
Nigerians NORP
the House of Representatives ORG
the Quarantine Act LAW
the Control of Infectious Diseases Bill ORG
second ORDINAL
last week DATE
82 CARDINAL
the House of Representatives ORG
Gbajabiamila ORG
the Nigeria Centre for Disease Control ORG
NCDC ORG
NCDC ORG
Nigeria GPE
Tuesday DATE
NCDC ORG
Bill PERSON
NCDC ORG
Section 10 LAW

3 CARDINAL
Nigeria GPE
Center For Liberty ORG
Civil Society Legislative Advocacy Centre ORG
Amnesty International ORG
YIAGA Africa GPE
Human and Environmental Development Agenda ORG
Global Rights and African Centre for Media and Information Literacy
ORG
are International Press Centre ORG
Lawyers Alert PERSON
Women Advocates Research and Documentation Centre ORG
Enough, ORG
Community Life Project, Centre for Information Technology and
Development, Centre for Impact Advocacy ORG
Concerned Nigerians ORG
Lex Community NG ORG
Education ORG
Vaccine PERSON
Dinidari Foundation ORG
Albino Foundation ORG
The Community of PWDs ORG
Nigeria GPE
Dorothy Njemanze Foundation ORG
Tap Nitiative ORG
Raising New Voices Initiative ORG
Haly Hope Foundation ORG
Youths Concerns Development Foundation ORG
PITCH Nigeria GPE
House of Justice ORG
Molluma Medico-Legal Centre PERSON
Albino Foundation ORG
The Community of PWDs ORG
Nigeria GPE
Alliances GPE
Africa LOC
Motion, Persons with Disabilities Action Network ORG
Tuesday DATE
Gbajabiamila PERSON
Nigerians NORP
Nigerian NORP
House ORG
Robin Williams PERSON
Last week DATE
Home Office ORG
a decade DATE
Nearly 9 per cent MONEY
16 to CARDINAL
24-year-olds DATE
the past 12 months DATE

Britain GPE
Europe LOC
Global sea LOC
the end of the century DATE
another 2 feet QUANTITY
CNN ORG
Monday DATE
the National Academy of Sciences ORG
University of Colorado-Boulder ORG
Steve Nerem PERSON
1993 DATE
between 1992 and 2014 DATE
7 centimeters QUANTITY
2.8 inches QUANTITY
25 years DATE
about 3 CARDINAL
0.1 inches QUANTITY
Read More WORK_OF_ART
Leon Young PERSON
the Wisconsin Legislature ORG
Earlier this week DATE
Young PERSON
Milwaukee GPE
the first three months of the year DATE
75 percent PERCENT
12,000 MONEY
49,943 MONEY
2011-12 DATE
only 34 days DATE
122 session days DATE
Young PERSON
2012 DATE
Young PERSON
seven CARDINAL
seven days DATE
a whole year DATE
the National Conference of State Legislatures ORG
Wisconsin GPE
10 CARDINAL
the Milwaukee County Board ORG
Republicans NORP
Legislature ORG
Alberta Darling PERSON
Joe Sanfelippo PERSON
15,000 MONEY
51,000 MONEY
\$6.5 million MONEY
annual DATE
Legislature ORG
Milwaukee County Board ORG

Young PERSON
recent days DATE
Democracy Campaign The Wisconsin Democracy Campaign ORG
the holidays DATE
Madison PERSON
the Joyce Foundation ORG
16 years DATE
Mike McCabe PERSON
232,000 MONEY
Joyce PERSON
The Democracy Campaign's ORG
annual DATE
430,000 MONEY
McCabe ORG
roughly \$130,000 MONEY
Capitol FAC
McCabe ORG
McCabe ORG
the Democracy Campaign ORG
McCabe ORG
Capitol ORG
Michigan GPE
Michigan GPE
Alcona County GPE
73rd ORDINAL
1998 DATE
the Associated Press ORG
Alcona GPE
Alpena GPE
Oscoda ORG
TB ORG
the Michigan Department of Natural Resources ORG
Michigan GPE
Fox-TV ORG
Mobile GPE
Ala. GPE
State ORG
Nancy Barr PERSON
the Associated Press ORG
5 Million Muslim Children MONEY
Yemen GPE
Hunger, Wars, COVID-19 & Poverty ORG
2020 DATE
the past two years DATE
2018-2020 DATE
85,000 CARDINAL
Yemen GPE
the year 2018 DATE
one CARDINAL
UK GPE

5 million CARDINAL
Yemen GPE
2018 DATE
2020 DATE
UK GPE
more than 5 million CARDINAL
Yemen GPE
2020 DATE
COVID-19 PERSON
Muslims NORP
Madina GPE
COVID-19 ORG
Helle Thorning-Schmidt PERSON
Save the Children International ORG
Yemen GPE
cholera & off ORG
COVID-19" Save the Children Organisation ORG
2018 DATE
four million CARDINAL
Save The Children ORG
Wednesday DATE
another million CARDINAL
Hodeida NORP
2 years DATE
Yemen GPE
one CARDINAL
Yemen GPE
one CARDINAL
Yemen GPE
Thorning-Schmidt PERSON
Telegraph FAC
UK GPE
2018 DATE
5.2 million CARDINAL
Yemen GPE
Britain GPE
NGO ORG
the year 2018 DATE
more than 10 CARDINAL
Yemen GPE
Yemen GPE
up to 85,000 CARDINAL
Guardian ORG
More than five million CARDINAL
Yemen GPE
Unicef Usa PERSON
Yemen GPE
Yemen GPE
Children Are on the Edge of Starvation WORK_OF_ART
Muslim NORP

Arab NORP
Saudi Arabia's GPE
Muslim NORP
Holy Prophet Muhammad PERSON
over 20 hours TIME
Friday DATE
Breonna Taylor PERSON
Taylor PERSON
today DATE
Taylor PERSON
Taylor PERSON
months DATE
months ago DATE
Taylor PERSON
the Daily Mail ORG
Taylor PERSON
Taylor PERSON
Brett Hankison PERSON
Taylor PERSON
Kenneth Walker PERSON
One CARDINAL
Taylor PERSON
Officers PRODUCT
Taylor PERSON
the night TIME
almost a minute TIME
10 or 15 seconds TIME
Louisville GPE
Kentucky GPE
Shawn Hoover PERSON
Taylor PERSON
third ORDINAL
45 seconds TIME
a minute TIME
Hoover PERSON
Walker ORG
One CARDINAL
Taylor PERSON
4 CARDINAL
Breonna Taylor's PERSON
Taylor PERSON
Louisville GPE
March 13 DATE
26-year-old DATE
five CARDINAL
Cameron ORG
two CARDINAL
Taylor PERSON
Taylor PERSON
first ORDINAL

Brett Hankison PERSON
three CARDINAL
American NORP
George Floyd PERSON
Taylor PERSON
Jason Whitlock PERSON
Taylor PERSON
BILL GATES EXPLAINS THAT THE COVID VACCINE ORG
EXPERIMENTAL ORG
the Mother Jones Daily ORG
Newt Gingrich PERSON
one CARDINAL
Donald Trump's PERSON
Cabinet ORG
Republican NORP
Trump ORG
Hillary Clinton PERSON
Gingrich PERSON
two years ago DATE
Trump ORG
four years ago DATE
Electoral College ORG
Election Day 2012 DATE
Mitt Romney PERSON
the Electoral College ORG
Barack Obama PERSON
Trump ORG
April DATE
Ben Carson PERSON
the Electoral College ORG
Gingrich PERSON
Trumpsters ORG
Trump ORG
2014 DATE
Gingrich PERSON
National Popular Vote ORG
11 CARDINAL
one CARDINAL
an additional 12 CARDINAL
Americans NORP
two years ago DATE
Gingrich PERSON
Gingrich PERSON
Americans NORP
Gingrich PERSON
314 million CARDINAL
Earth LOC
Gingrich PERSON
America GPE
Clinton PERSON

Trump ORG
60 million CARDINAL
59.8 million CARDINAL
one-fifth CARDINAL
Americans NORP
Gingrich PERSON
Trump ORG
one CARDINAL
the White House FAC
Trump ORG
2012 DATE
The United States GPE
RT-PCR ORG
Torsten Engelbrecht PERSON
Konstantin Demeter Lockdowns PERSON
PCR ORG
COVID-19 ORG
March 16, 2020 DATE
WHO ORG
Tedros Adhanom Ghebreyesus PERSON
Reuters ORG
BBC ORG
3 CARDINAL
May DATE
German NORP
PCR ORG
Walter Lippmann PERSON
two CARDINAL
Pulitzer Prize WORK_OF_ART
the 20th century DATE
Kary Mullis PERSON
the Polymerase Chain Reaction PCR ORG
the Nobel prize WORK_OF_ART
1993 DATE
Mullis PERSON
last year DATE
the age of 74 DATE
PCR ORG
PCR ORG
millions and billions MONEY
PCR ORG
Gina Kolata PERSON
2007 DATE
New York Times ORG
Faith WORK_OF_ART
PCR ORG
COVID-19 PRODUCT
Australian NORP
Sanjaya Senanayake PERSON
ABC TV ORG

decades DATE
COVID-19 PERSON
Jessica C. Watson PERSON
Bristol University ORG
The British Medical Journal ORG
COVID-19 ORG
COVID-19 PERSON
Watson PERSON
PCR ORG
PCR ORG
PCR ORG
COVID-19 ORG
Thomas Löscher PERSON
the Department of Infection and Tropical Medicine ORG
the University of Munich ORG
the Federal Association of German Internists ORG
COVID-19 ORG
COVID-19 PERSON
Watson PERSON
Watson PERSON
Watson PERSON
COVID-19 PERSON
COVID-19 ORG
June 2nd DATE
later this week DATE
RNA ORG
first ORDINAL
RNA ORG
PCR ORG
White/Fenner ORG
1986 DATE
9 CARDINAL
Luc Montagnier PERSON
Dominic Dwyer PERSON
Nobel WORK_OF_ART
Marie Curie PERSON
100 CARDINAL
1898 DATE
RNA ORG
PCR ORG
PCR ORG
RNA ORG
RNA ORG
NB ORG
Leo L. M. Poon PERSON
Malik Peiris PERSON
Nature Medicine WORK_OF_ART
March 2020 DATE
Malik Peiris PERSON
May 12 DATE

2020 DATE
2 CARDINAL
Myung-Guk Han et al ORG
Korea GPE
COVID-19 ORG
Osong Public Health and Research Perspectives ORG
February 2020 DATE
Myung-Guk Han Date PERSON
May 6, 2020 Answer: DATE
3 CARDINAL
Wan Beom Park PERSON
the First Patient ORG
Korea GPE
Journal of Korean Medical Science ORG
February 24 DATE
2020 DATE
Wan Beom Park Date: PERSON
March 19, 2020 Answer: DATE
4 CARDINAL
Na Zhu et al. PERSON
A Novel Coronavirus from Patients WORK_OF_ART
China GPE
2019 DATE
New England Journal of Medicine ORG
February 20, 2020 DATE
Wenjie Tan Date: PERSON
March 18, 2020 DATE
four CARDINAL
early 2020 DATE
Charles Calisher PERSON
2001 DATE
Calisher PERSON
Dr Calisher PERSON
one CARDINAL
RNA ORG
PCR ORG
RNA ORG
COVID-19 ORG
one CARDINAL
four CARDINAL
Koch PERSON
Amory Devereux ORG
Rosemary Frei PERSON
OffGuardian NORP
One CARDINAL
Nature GPE
May 7 DATE
third ORDINAL
German NORP
Alexander S. Kekulé University of Halle ORG

Hartmut Hengel PERSON
Ralf Bartenschlager German PERSON
Society for Virology ORG
Thomas Löscher PERSON
Ulrich Dirnagl PERSON
Bornkamm PERSON
RNA ORG
Nobel WORK_OF_ART
Barbara McClintock PERSON
her Nobel Lecture back WORK_OF_ART
1983 DATE
Charité NORP
Christian Drosten ORG
Germany GPE
COVID-19 ORG
German NORP
PCR ORG
first ORDINAL
WHO ORG
June 18, 2020 DATE
months DATE
Berlin GPE
Viviane Fischer PERSON
Charité NORP
Charité NORP
Charité NORP
Corman NORP
RNA ORG
the MagNA Pure 96 PRODUCT
Roche ORG
Penzberg GPE
Germany GPE
RNA ORG
QIAGEN ORG
Hilden GPE
Germany GPE
RNA ORG
January 23, 2020 DATE
two CARDINAL
PCR ORG
February DATE
China GPE
Guangdong province GPE
COVID-19 ORG
A month later DATE
the Journal of Medical Virology ORG
29 CARDINAL
610 CARDINAL
Wuhan GPE
3 CARDINAL

6 CARDINAL
third ORDINAL
Singapore GPE
almost daily DATE
18 CARDINAL
up to five CARDINAL
one CARDINAL
Wang Chen PERSON
the Chinese Academy of Medical Sciences ORG
February DATE
PCR ORG
only 30 to 50 CARDINAL
Sin Hang Lee PERSON
the Milford Molecular Diagnostics Laboratory ORG
WHO ORG
Anthony S. Fauci PERSON
March 22, 2020 DATE
RNA ORG
PCR ORG
PPV ORG
PPV ORG
two CARDINAL
95% PERCENT
5 CARDINAL
100 CARDINAL
PPV ORG
June 12 2020 DATE
Deutsches Ärzteblatt ORG
PPV ORG
three CARDINAL
second ORDINAL
Jessica Watson PERSON
95% PERCENT
Deutsches Ärzteblatt PERSON
PPV ORG
one CARDINAL
three CARDINAL
3% PERCENT
PPV ORG
only 30 percent PERCENT
70 percent PERCENT
Ärzteblatt PERSON
second ORDINAL
20 percent PERCENT
PPV ORG
78 percent PERCENT
22 percent PERCENT
9 million CARDINAL
almost 2 million CARDINAL
CDC ORG

FDA ORG
CDC ORG
2019 DATE
2019 DATE
March 30, 2020 DATE
RNA ORG
2019 DATE
FDA ORG
PCR ORG
Altona Diagnostics ORG
the LightMix Modular Assays ORG
TIB Molbiol ORG
Roche ORG
PCR ORG
Roche ORG
qPCR ORG
millions and millions CARDINAL
CDC ORG
WHO ORG
FDA ORG
RKI ORG
Jon Rappoport PERSON
RNA ORG
PCR ORG
a few hundred or even CARDINAL
thousand CARDINAL
PCR ORG
29 CARDINAL
86 DATE
199 CARDINAL
272 CARDINAL
293 CARDINAL
un ORG
Viviane Fischer PERSON
Charité NORP
Charité NORP
Charité NORP
RT-PCR ORG
Charité NORP
the Institut Pasteur ORG
Asian NORP
Asian NORP
the beginning of April DATE
WHO ORG
Asian NORP
Roche ORG
TIB Molbiol ORG
PCR ORG
35 DATE
45 CARDINAL

Cq NORP
Cq PERSON
higher than 40 CARDINAL
MIQE ORG
MIQE ORG
Minimum Information for Publication of Quantitative Real-Time PCR
Experiments WORK_OF_ART
Real-Time PCR ORG
PCR ORG
qPCR NORP
Kary Mullis PERSON
more than 40 CARDINAL
PCR ORG
MIQE ORG
Stephen A. Bustin PERSON
PCR ORG
A-Z of Quantitative PCR WORK_OF_ART
qPCR NORP
Bustin NORP
Cq PERSON
the 20s to 30s DATE
Cq PERSON
35 DATE
Cq GPE
PCR ORG
RNA ORG
RNA ORG
Reverse Transcriptase PERSON
qPCR PRODUCT
Jessica Schwaber PERSON
the Centre for Commercialization of Regenerative Medicine ORG
Toronto GPE
two CARDINAL
2019 DATE
Stephen A. Bustin PERSON
PCR ORG
RNA ORG
RNA ORG
10 CARDINAL
PCR ORG
COVID-19 PRODUCT
NB ORG
WHO ORG
the British Medical Journal ORG
2010 DATE
WHO ORG
CDC ORG
RT-PCR ORG
Fatal Therapie WORK_OF_ART
COVID-19 ORG

COVID-19 ORG
1] Sensitivity ORG
2 CARDINAL
Thomas Löscher PERSON
March 6, 2020 DATE
3 CARDINAL
Science ORG
July 6, 2001 DATE
24 CARDINAL
4 CARDINAL
Charles Calisher PERSON
May 10, 2020 DATE
5 CARDINAL
Hamburg GPE
Germany GPE
2006 DATE
Virus-Mania ORG
Klaus Kohnlein PERSON
2009 DATE
German NORP
Rubikon PERSON
Süddeutsche Zeitung ORG
Financial Times Deutschland ORG
Konstantin Demeter PERSON
Torsten Engelbrecht PERSON
COVID-19 ORG
Rubikon PERSON
Swiss Italian NORP

Exemple d'affichage graphique des entités nommées d'un texte

```
nlp = spacy.load("en_core_web_sm")  
text = dftrain['text'].iloc[3] # Choisir le premier texte comme  
exemple  
doc = nlp(text)
```

```
displacy.render(doc, style="ent", jupyter=True)
```

<IPython.core.display.HTML object>

Cette fonction a pour but d'ajouter le type d'entité de chaque token détecté à coté de chaque entité détectée dans le texte qu'elle prend en entrée, et retourne le texte modifié avec les informations ajoutées sur les entités nommées.

```
def add_entity_name(text):  
    if text is None or pd.isna(text):  
        return ""  
  
    doc = nlp(text)  
    # Créer une liste pour stocker les nouveaux tokens  
    nouveaux_tokens = []
```

```

    # Parcourir les tokens et ajouter des informations selon le type
    d'entité
    for token in doc:
        if token.ent_type_:
            # Ajouter le nom de l'entité (type d'entité) à côté de
            l'entité
            nouveaux_tokens.append(f"{token.text}
            ({token.ent_type_})")
        else:
            nouveaux_tokens.append(token.text)

    # Reconstruire le texte avec les informations ajoutées
    nouveau_texte = " ".join(nouveaux_tokens)
    return nouveau_texte

```

Application de la fonction précédente à la colonne "texte" avec la méthode apply

```

dftrain['text'] = dftrain['text'].astype(str)

# Appliquer la fonction à la colonne "title"
dftrain['text'] = dftrain['text'].apply(add_entity_name)

print(dftrain['text'])

```

```

615      It 's been a long time coming , but finally we...
1303      Constitutional Attorney Matthew (PERSON) DePer...
1232      The (GPE) United (GPE) States (GPE) is witness...
2022      After three (DATE) decades (DATE) on the bench...
287      Based on actual results and accounting for sta...

...
1006      5 (MONEY) Million (MONEY) Muslim (MONEY) Child...
1543      The bombshell claim comes from over (TIME) 20 ...
853      BILL (ORG) GATES (ORG) EXPLAINS (ORG) THAT (OR...
296      Let our journalists help you make sense of the...
1325      Though the whole world relies on RT (ORG) - (O...
Name: text, Length: 844, dtype: object

```

On scinde les données de la colonne "texte" en jeu d'apprentissage et jeu de test

```

X=dftrain['text']
X_train,X_test,y_train,y_test=train_test_split(X,y,test_size =
0.2,random_state=8)
print("X_train is \n",X_train.shape)
print("y_train is \n",y_train.shape)
print("X_test is \n",X_test.shape)
print("y_test is \n",y_test.shape)

X_train is
(675,)
y_train is

```

```
(675,)
X_test is
(169,)
y_test is
(169,)
```

Ici, c'est une étape importante, on va tester différents classifieurs, pour chacun des classifieurs, on va appliquer le prétraitement + Vectorisation Tfidf, et on applique une cross_val_score avec un Kfold de 10 fois, par la suite on stocke dans une liste all_results la moyenne des accuracy + l'écart type et on la trie par ordre décroissant de moyenne d'accuracy et d'écart type. on remarque que les 2 meilleurs sont SVM et RF qu'on va sélectionner pour leur appliquer le GridSearch sur les paramètres des prétraitements + leurs hyperparamètres pour pouvoir choisir le meilleur.

```
np.random.seed(42) # Set the random seed for NumPy
```

```
score = 'accuracy'
seed = 7
allresults = []
results = []
names = []
```

```
# Liste des modèles à tester
```

```
models = [
    ('MultinomialNB', MultinomialNB()),
    ('LogisticRegression', LogisticRegression(random_state=42))
]
```

```
models.append(('KNN', KNeighborsClassifier()))
models.append(('CART', DecisionTreeClassifier(random_state=42)))
models.append(('RF', RandomForestClassifier(random_state=42)))
models.append(('SVM', SVC(random_state=42)))
```

```
# Création d'un pipeline pour chaque modèle
```

```
pipelines = []
for name,model in models:
    pipeline = Pipeline([
        ('normalize', TextNormalizer()),
        ('tfidf', TfidfVectorizer()),
        (name,model)
    ])
    pipelines.append((name,pipeline))
#pipeline.fit(X_train,y_train)
all_results=[]
scores=[]
for p in pipelines:
    print(p[1])
```



```

# cross validation en 10 fois
kfold = KFold(n_splits=10, random_state=seed, shuffle=True)

# print ("Evaluation de ",p)
start_time = time.time()
# application de la classification
cv_results = cross_val_score(p[1],X_train,y_train, cv=kfold,
scoring=score)
#print("Pour le classifieur",p[0],"on a un score
de",cv_results.mean(),"et un écart type de",cv_results.std())
scores.append(cv_results)

all_results.append((p[0],cv_results.mean(),cv_results.std()))
end_time = time.time()

print("all resultats", all_results)

all_results = sorted(all_results, key=lambda x: (-x[1], -x[2]))
print("all resultats", all_results)
# affichage des résultats
#print ('\nLe meilleur resultat : ',max(results))

X_train (675,)
y_train (675,)
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('MultinomialNB', MultinomialNB())])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('LogisticRegression',
LogisticRegression(random_state=42))])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('KNN', KNeighborsClassifier())])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('CART', DecisionTreeClassifier(random_state=42))])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('RF', RandomForestClassifier(random_state=42))])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('SVM', SVC(random_state=42))])
all resultats [('MultinomialNB', 0.8013388937664618,
0.06343279404927976), ('LogisticRegression', 0.8238147497805093,
0.03841540798676155), ('KNN', 0.6782484635645304, 0.0667016883923831),
('CART', 0.8178226514486392, 0.033587110207881604), ('RF',
0.9008121158911327, 0.03275600442499714), ('SVM', 0.894951712028095,
0.04008495427247786)]

```

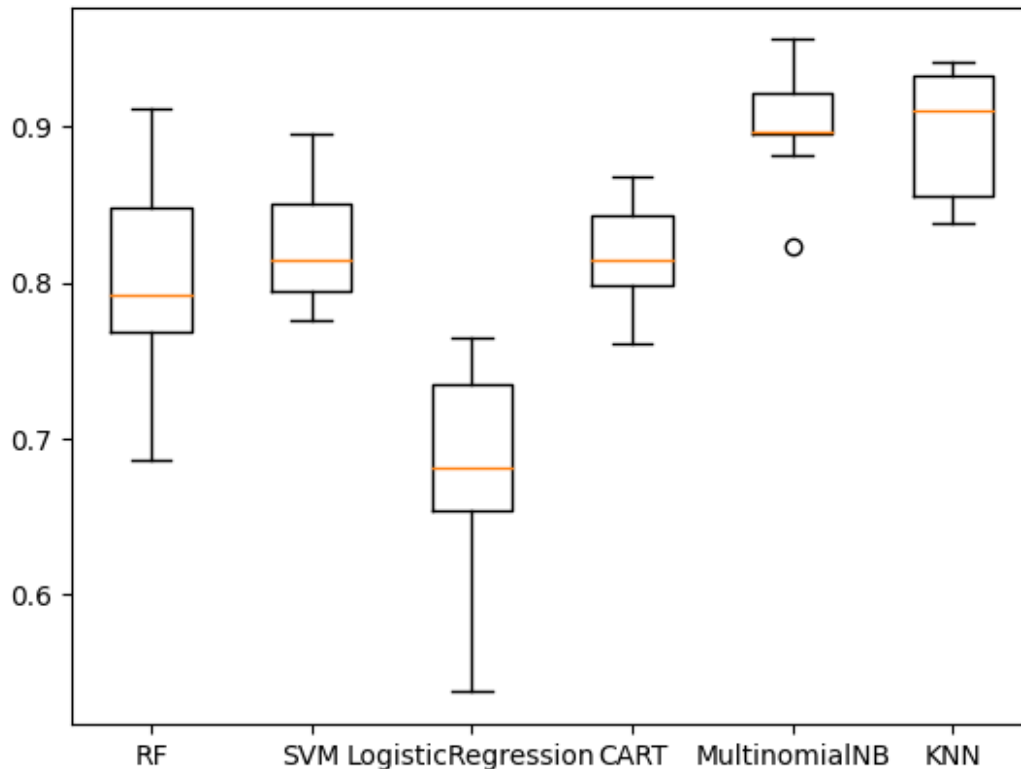
```
all_results [('RF', 0.9008121158911327, 0.03275600442499714),
('SVM', 0.894951712028095, 0.04008495427247786),
('LogisticRegression', 0.8238147497805093, 0.03841540798676155),
('CART', 0.8178226514486392, 0.033587110207881604), ('MultinomialNB',
0.8013388937664618, 0.06343279404927976), ('KNN', 0.6782484635645304,
0.0667016883923831)]
```

On affiche les accuracy de chaque classifieur, on remarque la médiane (en rouge) de chaque et l'écart type aussi.

```
fig = plt.figure()
fig.suptitle('Comparaison des algorithmes')
ax = fig.add_subplot(111)
plt.boxplot(scores)
ax.set_xticklabels(name[0] for name in all_results)

[Text(1, 0, 'RF'),
Text(2, 0, 'SVM'),
Text(3, 0, 'LogisticRegression'),
Text(4, 0, 'CART'),
Text(5, 0, 'MultinomialNB'),
Text(6, 0, 'KNN')]
```

Comparaison des algorithmes



On a un pipeline pour chaque prétraitement différent, on essaye pas mal (miniscule, lemmatisation, miniscule + lemmatisation..) et on stocke le fit_transform de nos X_train, X_test sur les pipelines dans des listes qui vont contenir tous les fit_transform des pipelines pour chaque classifieur, par la suite on parcourt ces listes là, on itère dessus, et chaque élément de la liste (train) va passer par le GridSearch et puis on predict sur son correspondant dans liste (test).

```
np.random.seed(42) # Set the random seed for NumPy
print("y_train", y_train.shape)
print("y_test", y_test.shape)
X_test = np.ravel(X_test)
print("X_test", X_test.shape)
# le plus simple est de faire un test sur différents pipelines.
# pipeline de l'utilisation de CountVectorizer sur le texte avec
différents pré-traitements
CV_brut = Pipeline([('cleaner', TextNormalizer()),
                    ('count_vectorizer',
                     CountVectorizer(lowercase=False))])
CV_lowcase = Pipeline([('cleaner',
                        TextNormalizer(removestopwords=False, lowercase=True,

getstemmer=False, removedigit=False)),
                      ('count_vectorizer',
                       CountVectorizer(lowercase=False))])
CV_lowStop = Pipeline([('cleaner',
                        TextNormalizer(removestopwords=True, lowercase=True,

getstemmer=False, removedigit=False)),
                      ('count_vectorizer',
                       CountVectorizer(lowercase=False))])

CV_lowStopstem = Pipeline([('cleaner',
                            TextNormalizer(removestopwords=True, lowercase=True,

getstemmer=True, removedigit=False)),
                          ('count_vectorizer',
                           CountVectorizer(lowercase=False))])

# pipeline de l'utilisation de TfidfVectorizer avec différents pré-
traitements
TFIDF_brut = Pipeline([('cleaner', TextNormalizer()),
                      ('tfidf_vectorizer',
                       TfidfVectorizer(lowercase=False))])

TFIDF_lowcase = Pipeline([('cleaner',
                            TextNormalizer(removestopwords=False, lowercase=True,

getstemmer=False, removedigit=False)),
```

```

        ('tfidf_vectorizer',
TfidfVectorizer(lowercase=False))])
TFIDF_lowStop = Pipeline([('cleaner',
TextNormalizer(removestopwords=True,lowercase=True,

getstemmer=False,removedigit=False)),
        ('tfidf_vectorizer',
TfidfVectorizer(lowercase=False))])

TFIDF_lowStopstem = Pipeline([('cleaner',
TextNormalizer(removestopwords=True,lowercase=True,

getstemmer=True,removedigit=False)),
        ('tfidf_vectorizer',
TfidfVectorizer(lowercase=False))])

```

Liste de tous les modeles à tester

```

all_models = [
    ("CV_brut", CV_brut),
    ("CV_lowercase", CV_lowercase),
    ("CV_lowStop", CV_lowStop),
    ("CV_lowStopstem", CV_lowStopstem),
    ("TFIDF_lowercase", TFIDF_lowercase),
    ("TFIDF_lowStop", TFIDF_lowStop),
    ("TFIDF_lowStopstem", TFIDF_lowStopstem),
    ("TFIDF_brut", TFIDF_brut)
]

```

```

X_train_text_SVC = []
X_test_text_SVC = []

```

```

X_train_text_RandomForestClassifier = []
X_test_text_RandomForestClassifier = []

```

```

for name, pipeline in all_models :
    X_train_text_SVC.append(pipeline.fit_transform(X_train).toarray())
    X_test_text_SVC.append(pipeline.transform(X_test).toarray())

```

```

X_train_text_RandomForestClassifier.append(pipeline.fit_transform(X_train).toarray())

```

```

X_test_text_RandomForestClassifier.append(pipeline.transform(X_test).toarray())

```

```

models = {
    'SVC': SVC(random_state=42),
    'RandomForestClassifier': RandomForestClassifier(random_state=42)
}

params = {'SVC': [{'C': [0.001, 0.01, 0.1, 1, 2, 5, 7, 10]},
                  {'gamma': [0.001, 0.01, 0.1, 0.2, 0.3, 0.5, 0.7, 1]}],
          'RandomForestClassifier': [{'n_estimators': [10, 50, 100, 200,
300]}],
          {'max_features': ['auto', 'sqrt',
'log2']}]

for model_name, model in models.items():
    score='accuracy'
    X_train_text = eval('X_train_text_' + model_name)
    X_test_text = eval('X_test_text_' + model_name)
    for i in range(len(X_train_text)):
        grid_search = GridSearchCV(model, params[model_name], n_jobs=-1,
verbose=1, scoring=score)
        print("grid search fait")
        print("X_train", X_train_text[i].shape)
        print("y_train", y_train.shape)
        grid_search.fit(X_train_text[i], y_train)
        print('meilleur score %0.3f'%(grid_search.best_score_), '\n')
        print('meilleur estimateur', grid_search.best_estimator_, '\n')
        y_pred = grid_search.predict(X_test_text[i])
        MyshowAllScores(y_test, y_pred)

    print("Ensemble des meilleurs paramètres :")
    best_parameters = grid_search.best_estimator_.get_params()
    for param_dict in params[model_name]:
        for param_name, param_value in param_dict.items():
            print("\t%s: %r" % (param_name,
best_parameters[param_name]))

y_train (675,)
y_test (169,)
X_test (169,)
grid search fait
X_train (675, 24232)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.853

meilleur estimateur SVC(kernel='linear', random_state=42)

Accuracy : 0.858

```

```

Classification Report
              precision    recall  f1-score   support

    FALSE     0.87342     0.83133     0.85185         83
    TRUE      0.84444     0.88372     0.86364         86

 accuracy          0.85799         169
 macro avg         0.85893     0.85752     0.85774         169
 weighted avg      0.85867     0.85799     0.85785         169

```

Ensemble des meilleurs paramètres :

```

C: 1.0
gamma: 'scale'
kernel: 'linear'
grid search fait
X_train (675, 20676)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.853

```

meilleur estimateur SVC(kernel='linear', random_state=42)

Accuracy : 0.888

```

Classification Report
              precision    recall  f1-score   support

    FALSE     0.92105     0.84337     0.88050         83
    TRUE      0.86022     0.93023     0.89385         86

 accuracy          0.88757         169
 macro avg         0.89063     0.88680     0.88718         169
 weighted avg      0.89009     0.88757     0.88730         169

```

Ensemble des meilleurs paramètres :

```

C: 1.0
gamma: 'scale'
kernel: 'linear'
grid search fait
X_train (675, 20548)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.846

```

meilleur estimateur SVC(gamma=0.01, random_state=42)

Accuracy : 0.905

```

Classification Report
              precision    recall  f1-score   support

```

FALSE	0.83838	1.00000	0.91209	83
TRUE	1.00000	0.81395	0.89744	86
accuracy			0.90533	169
macro avg	0.91919	0.90698	0.90476	169
weighted avg	0.92063	0.90533	0.90463	169

Ensemble des meilleurs paramètres :

C: 1.0
gamma: 0.01
kernel: 'rbf'
grid search fait
X_train (675, 13959)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.850

meilleur estimateur SVC(kernel='linear', random_state=42)

Accuracy : 0.899

Classification Report

	precision	recall	f1-score	support
FALSE	0.94595	0.84337	0.89172	83
TRUE	0.86316	0.95349	0.90608	86
accuracy			0.89941	169
macro avg	0.90455	0.89843	0.89890	169
weighted avg	0.90382	0.89941	0.89903	169

Ensemble des meilleurs paramètres :

C: 1.0
gamma: 'scale'
kernel: 'linear'
grid search fait
X_train (675, 20676)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.889

meilleur estimateur SVC(C=1, random_state=42)

Accuracy : 0.923

Classification Report

	precision	recall	f1-score	support
FALSE	0.92683	0.91566	0.92121	83
TRUE	0.91954	0.93023	0.92486	86

accuracy			0.92308	169
macro avg	0.92318	0.92295	0.92303	169
weighted avg	0.92312	0.92308	0.92307	169

Ensemble des meilleurs paramètres :

C: 1
gamma: 'scale'
kernel: 'rbf'

grid search fait

X_train (675, 20548)

y_train (675,)

Fitting 5 folds for each of 18 candidates, totalling 90 fits

meilleur score 0.895

meilleur estimateur SVC(C=2, random_state=42)

Accuracy : 0.917

Classification Report

	precision	recall	f1-score	support
FALSE	0.88764	0.95181	0.91860	83
TRUE	0.95000	0.88372	0.91566	86

accuracy			0.91716	169
macro avg	0.91882	0.91776	0.91713	169
weighted avg	0.91937	0.91716	0.91711	169

Ensemble des meilleurs paramètres :

C: 2
gamma: 'scale'
kernel: 'rbf'

grid search fait

X_train (675, 13959)

y_train (675,)

Fitting 5 folds for each of 18 candidates, totalling 90 fits

meilleur score 0.890

meilleur estimateur SVC(C=2, random_state=42)

Accuracy : 0.941

Classification Report

	precision	recall	f1-score	support
FALSE	0.92941	0.95181	0.94048	83
TRUE	0.95238	0.93023	0.94118	86

accuracy			0.94083	169
macro avg	0.94090	0.94102	0.94083	169
weighted avg	0.94110	0.94083	0.94083	169

Ensemble des meilleurs paramètres :

```
C: 2
  gamma: 'scale'
  kernel: 'rbf'
grid search fait
X_train (675, 24232)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.890
```

meilleur estimateur SVC(C=2, random_state=42)

Accuracy : 0.923

Classification Report

	precision	recall	f1-score	support
FALSE	0.90698	0.93976	0.92308	83
TRUE	0.93976	0.90698	0.92308	86
accuracy			0.92308	169
macro avg	0.92337	0.92337	0.92308	169
weighted avg	0.92366	0.92308	0.92308	169

Ensemble des meilleurs paramètres :

```
C: 2
  gamma: 'scale'
  kernel: 'rbf'
grid search fait
X_train (675, 24232)
y_train (675,)
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.864
```

meilleur estimateur RandomForestClassifier(max_features='log2', random_state=42)

Accuracy : 0.864

Classification Report

	precision	recall	f1-score	support
FALSE	0.84091	0.89157	0.86550	83
TRUE	0.88889	0.83721	0.86228	86
accuracy			0.86391	169
macro avg	0.86490	0.86439	0.86389	169
weighted avg	0.86532	0.86391	0.86386	169

Ensemble des meilleurs paramètres :

```
n_estimators: 100
max_features: 'log2'
grid search fait
X_train (675, 20676)
y_train (675,)
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.874
```

```
meilleur estimateur RandomForestClassifier(n_estimators=50,
random_state=42)
```

Accuracy : 0.882

Classification Report

	precision	recall	f1-score	support
FALSE	0.89873	0.85542	0.87654	83
TRUE	0.86667	0.90698	0.88636	86
accuracy			0.88166	169
macro avg	0.88270	0.88120	0.88145	169
weighted avg	0.88242	0.88166	0.88154	169

Ensemble des meilleurs paramètres :

```
n_estimators: 50
max_features: 'sqrt'
grid search fait
X_train (675, 20548)
y_train (675,)
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.867
```

```
meilleur estimateur RandomForestClassifier(max_features='log2',
random_state=42)
```

Accuracy : 0.893

Classification Report

	precision	recall	f1-score	support
FALSE	0.88235	0.90361	0.89286	83
TRUE	0.90476	0.88372	0.89412	86
accuracy			0.89349	169
macro avg	0.89356	0.89367	0.89349	169
weighted avg	0.89376	0.89349	0.89350	169

Ensemble des meilleurs paramètres :

```
n_estimators: 100
max_features: 'log2'
grid search fait
```

```
X_train (675, 13959)
y_train (675,)
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.864
```

```
meilleur estimateur RandomForestClassifier(random_state=42)
```

```
Accuracy : 0.876
```

```
Classification Report
```

	precision	recall	f1-score	support
FALSE	0.89744	0.84337	0.86957	83
TRUE	0.85714	0.90698	0.88136	86
accuracy			0.87574	169
macro avg	0.87729	0.87518	0.87546	169
weighted avg	0.87693	0.87574	0.87557	169

```
Ensemble des meilleurs paramètres :
```

```
    n_estimators: 100
```

```
    max_features: 'sqrt'
```

```
grid search fait
```

```
X_train (675, 20676)
```

```
y_train (675,)
```

```
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.874
```

```
meilleur estimateur RandomForestClassifier(n_estimators=300,
random_state=42)
```

```
Accuracy : 0.929
```

```
Classification Report
```

	precision	recall	f1-score	support
FALSE	0.90805	0.95181	0.92941	83
TRUE	0.95122	0.90698	0.92857	86
accuracy			0.92899	169
macro avg	0.92963	0.92939	0.92899	169
weighted avg	0.93002	0.92899	0.92898	169

```
Ensemble des meilleurs paramètres :
```

```
    n_estimators: 300
```

```
    max_features: 'sqrt'
```

```
grid search fait
```

```
X_train (675, 20548)
```

```
y_train (675,)
```

```
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.877
```

meilleur estimateur RandomForestClassifier(n_estimators=200,
random_state=42)

Accuracy : 0.917

Classification Report

	precision	recall	f1-score	support
FALSE	0.90588	0.92771	0.91667	83
TRUE	0.92857	0.90698	0.91765	86
accuracy			0.91716	169
macro avg	0.91723	0.91734	0.91716	169
weighted avg	0.91743	0.91716	0.91717	169

Ensemble des meilleurs paramètres :

n_estimators: 200

max_features: 'sqrt'

grid search fait

X_train (675, 13959)

y_train (675,)

Fitting 5 folds for each of 8 candidates, totalling 40 fits

meilleur score 0.874

meilleur estimateur RandomForestClassifier(n_estimators=200,
random_state=42)

Accuracy : 0.911

Classification Report

	precision	recall	f1-score	support
FALSE	0.90476	0.91566	0.91018	83
TRUE	0.91765	0.90698	0.91228	86
accuracy			0.91124	169
macro avg	0.91120	0.91132	0.91123	169
weighted avg	0.91132	0.91124	0.91125	169

Ensemble des meilleurs paramètres :

n_estimators: 200

max_features: 'sqrt'

grid search fait

X_train (675, 24232)

y_train (675,)

Fitting 5 folds for each of 8 candidates, totalling 40 fits

meilleur score 0.881

meilleur estimateur RandomForestClassifier(n_estimators=200,
random_state=42)

Accuracy : 0.905

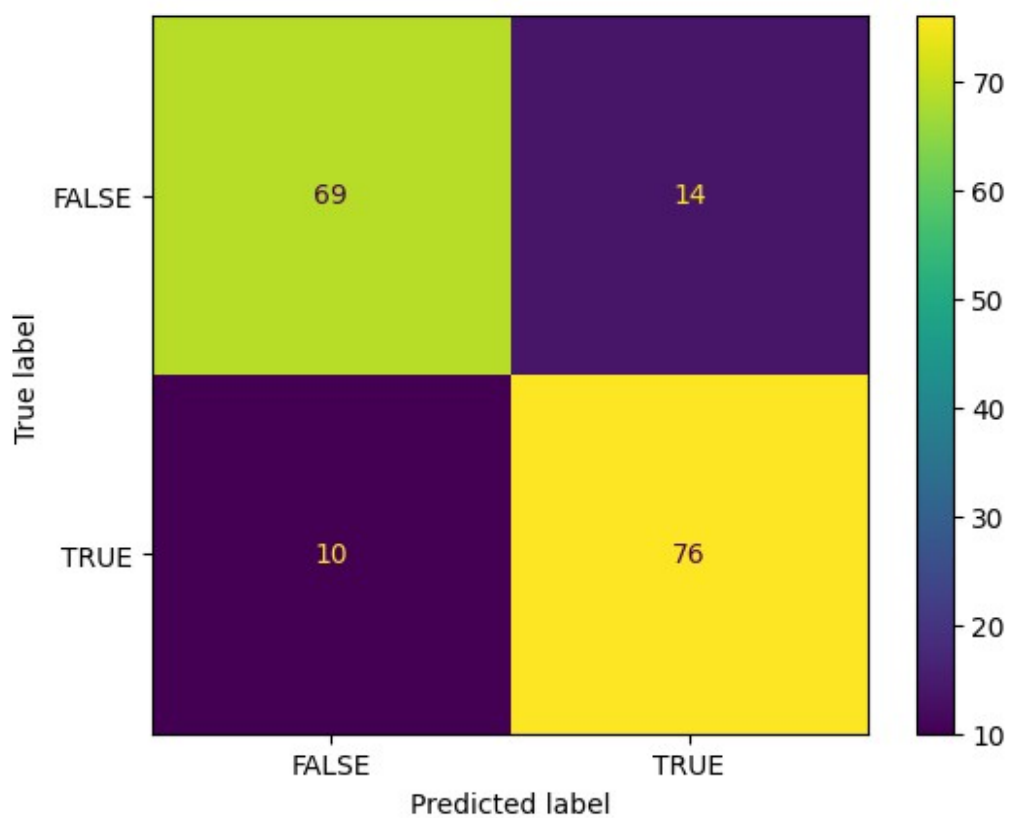
Classification Report

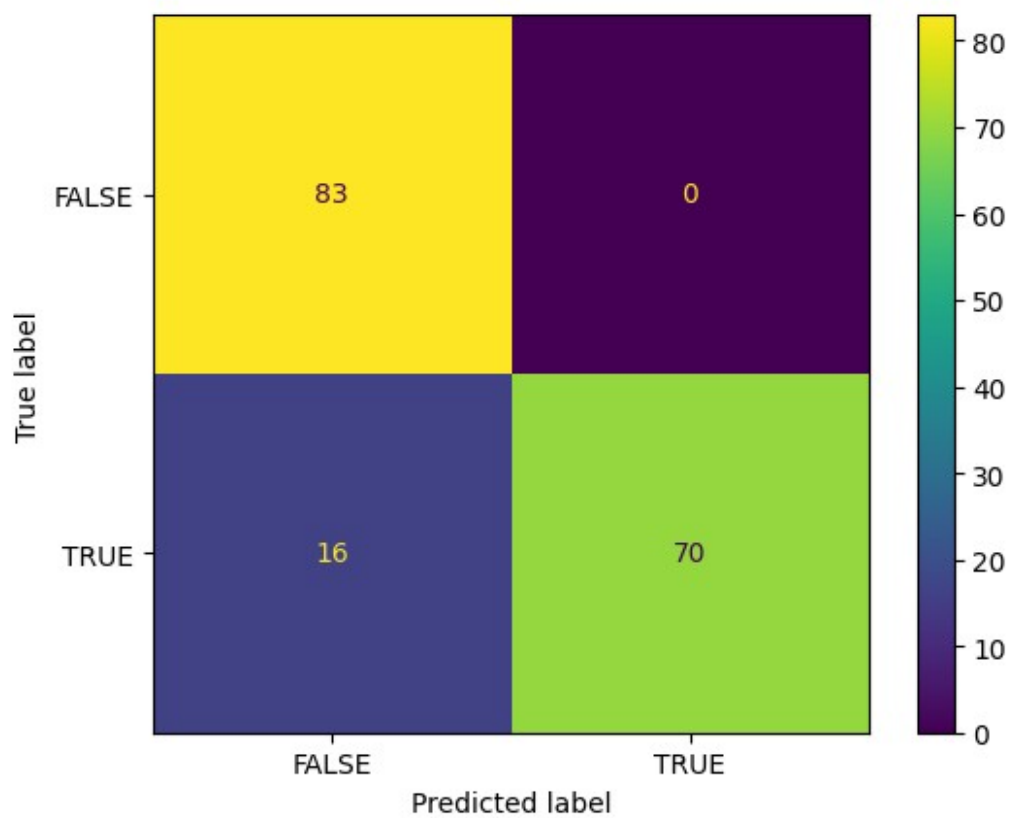
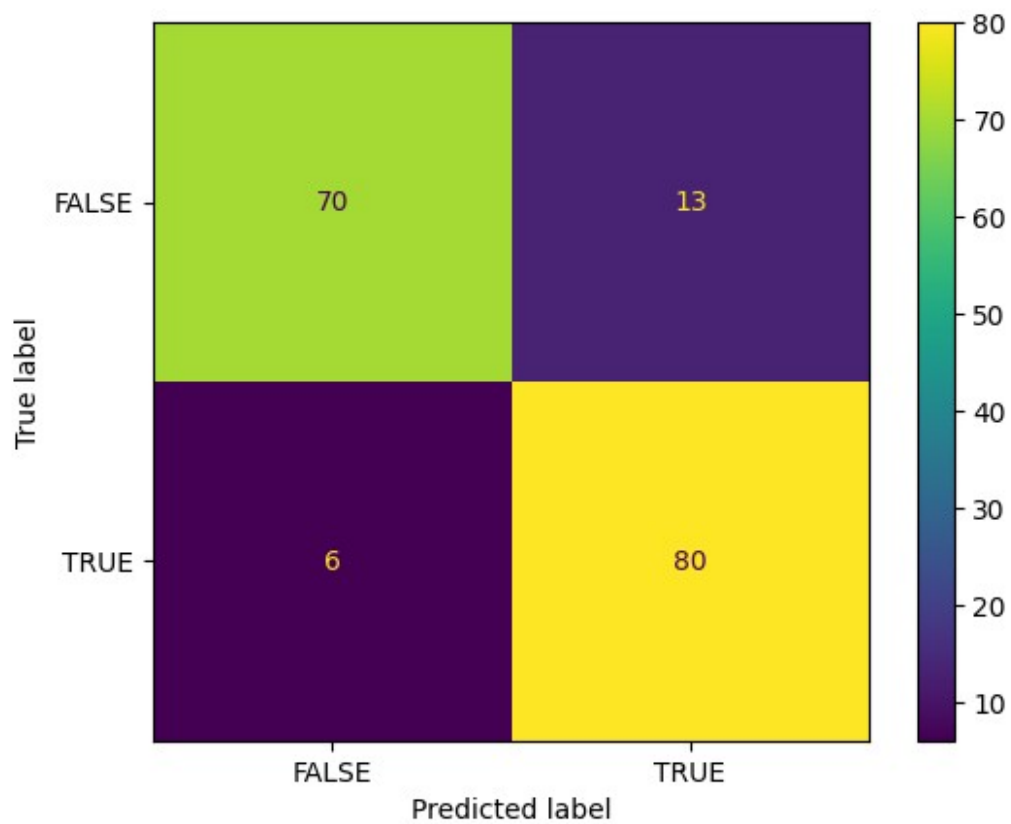
	precision	recall	f1-score	support
FALSE	0.90361	0.90361	0.90361	83
TRUE	0.90698	0.90698	0.90698	86
accuracy			0.90533	169
macro avg	0.90530	0.90530	0.90530	169
weighted avg	0.90533	0.90533	0.90533	169

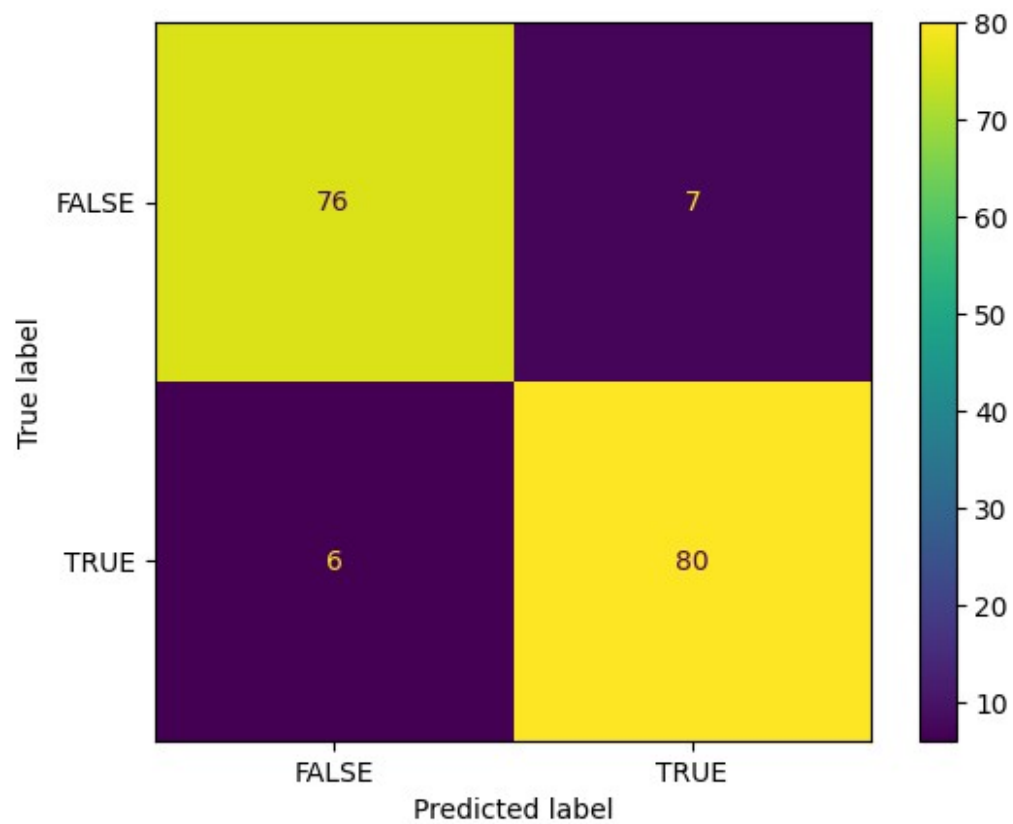
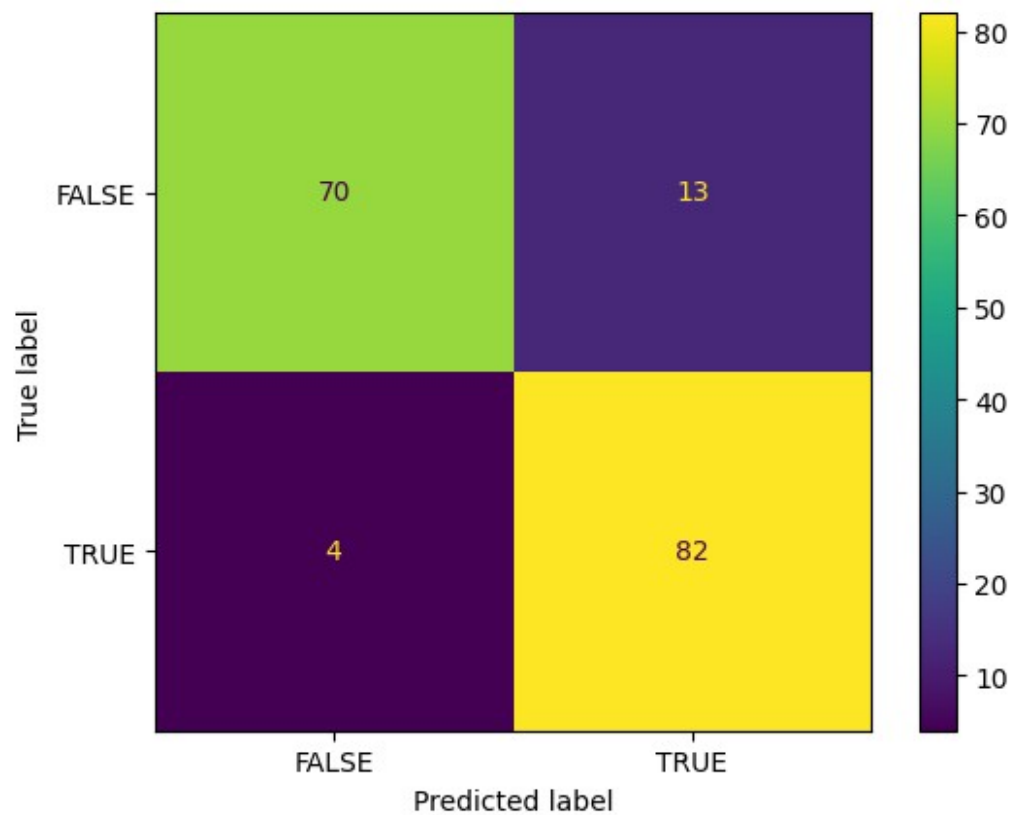
Ensemble des meilleurs paramètres :

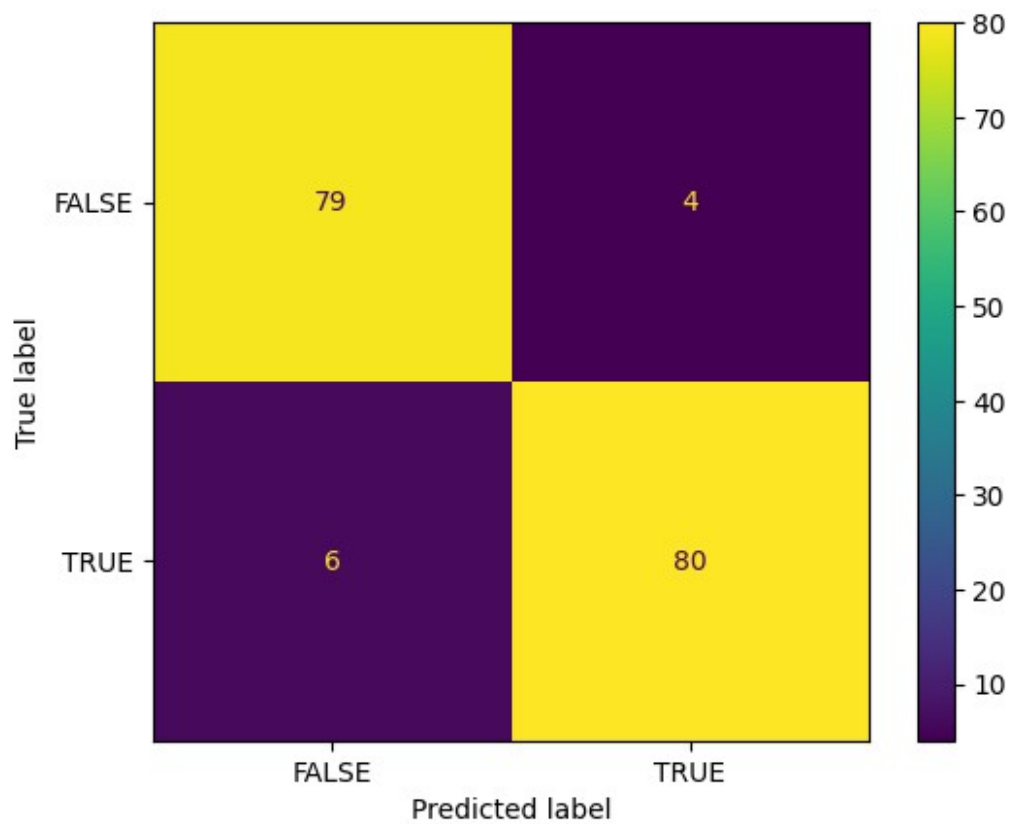
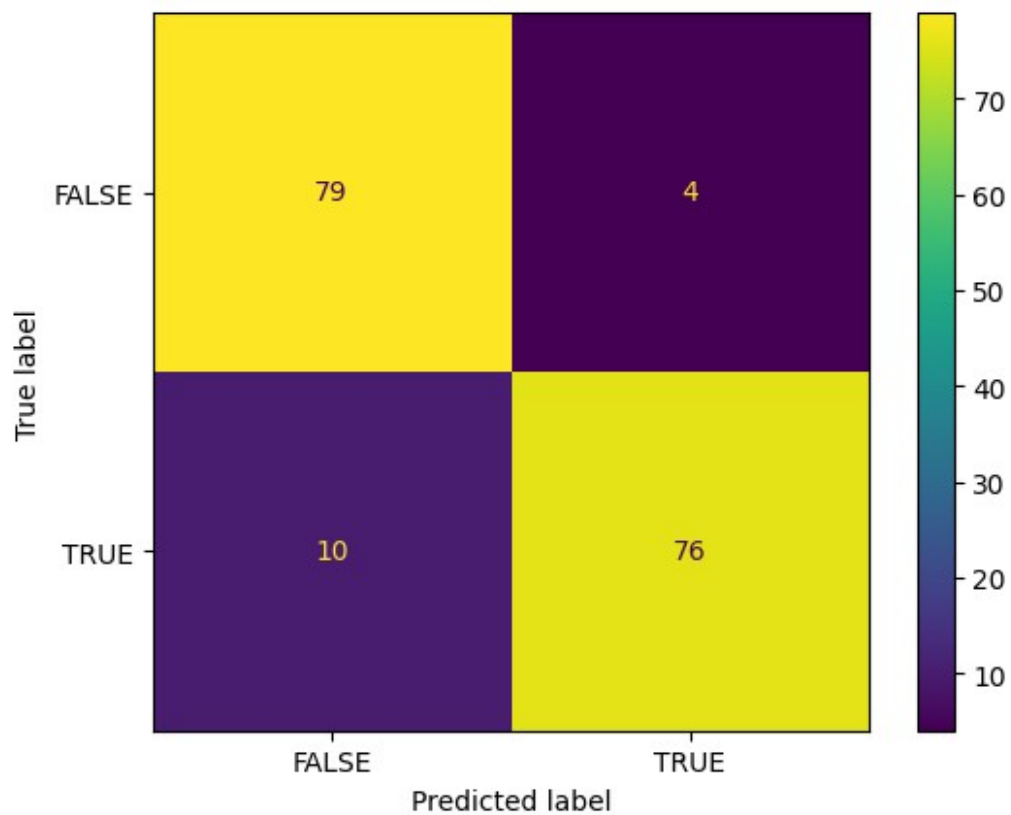
n_estimators: 200

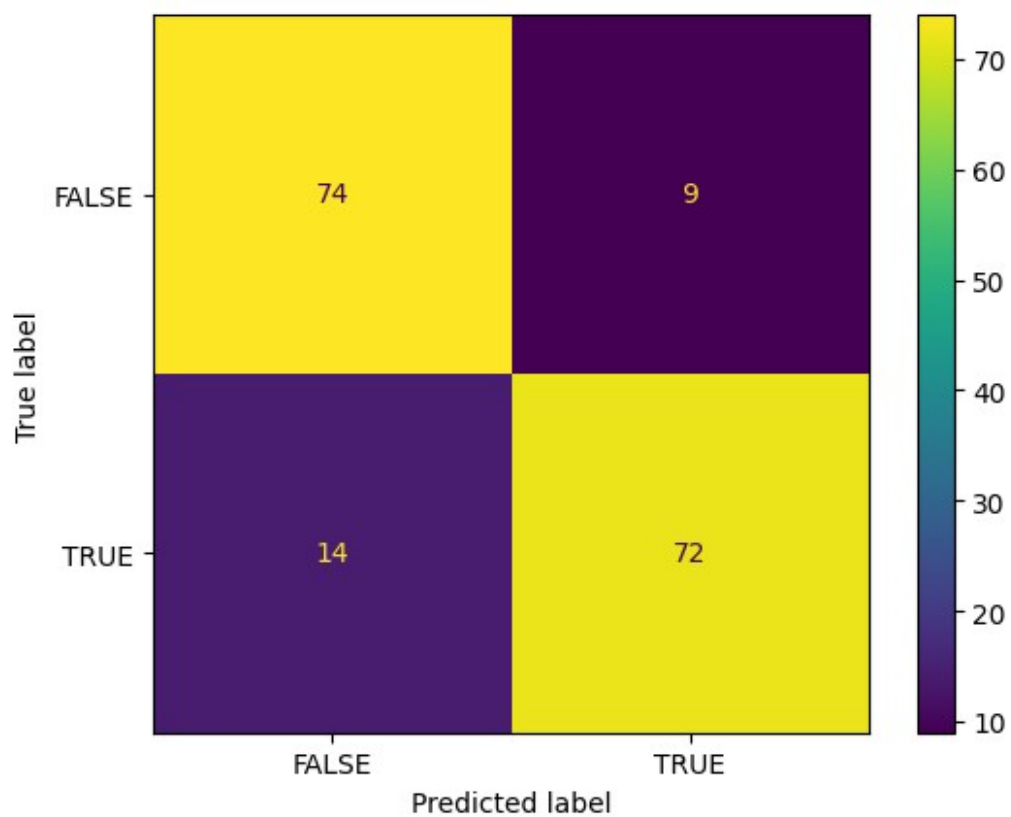
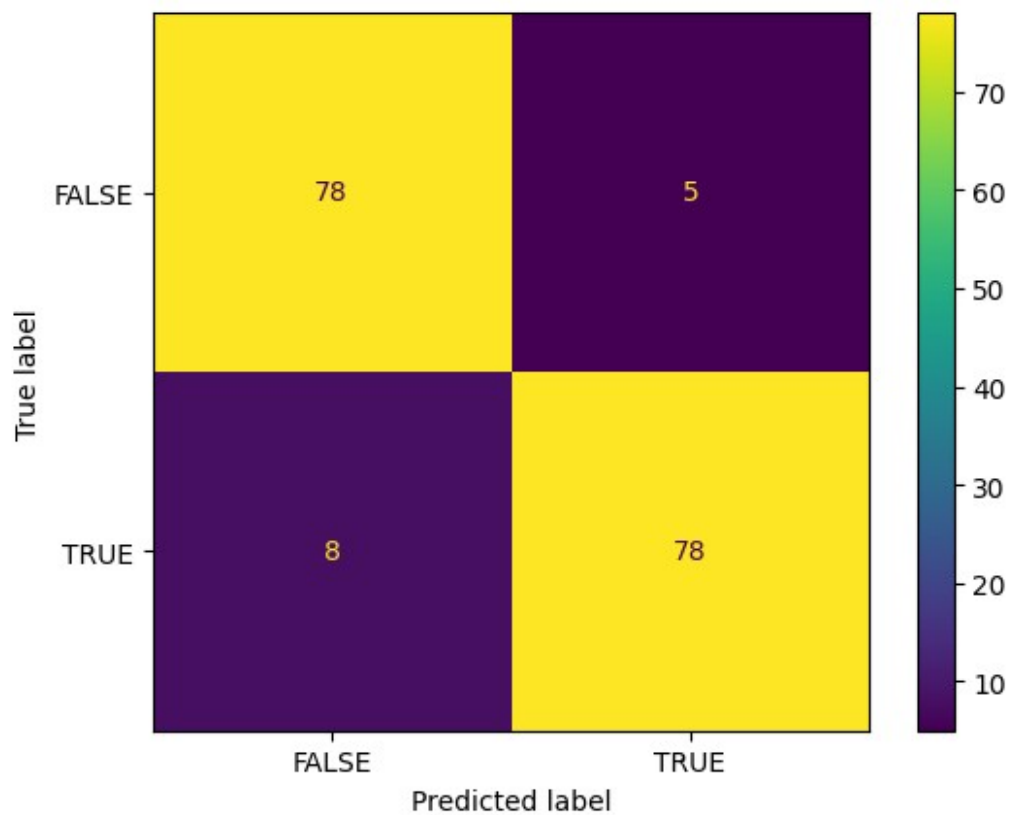
max_features: 'sqrt'

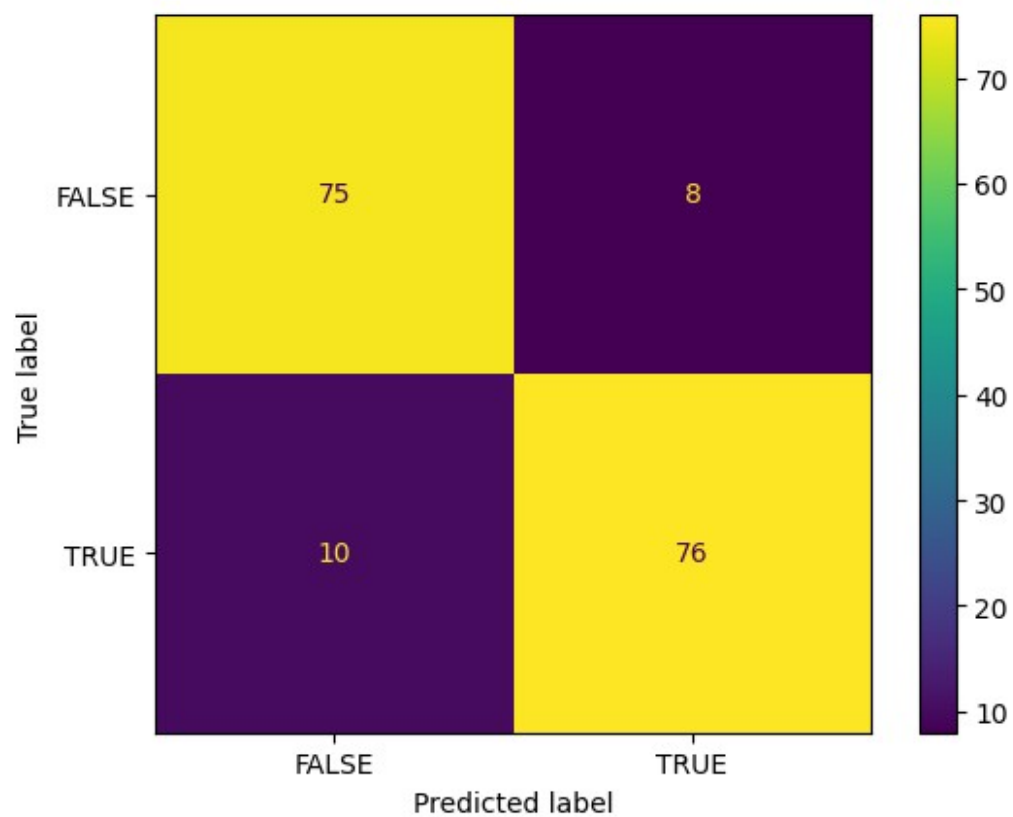
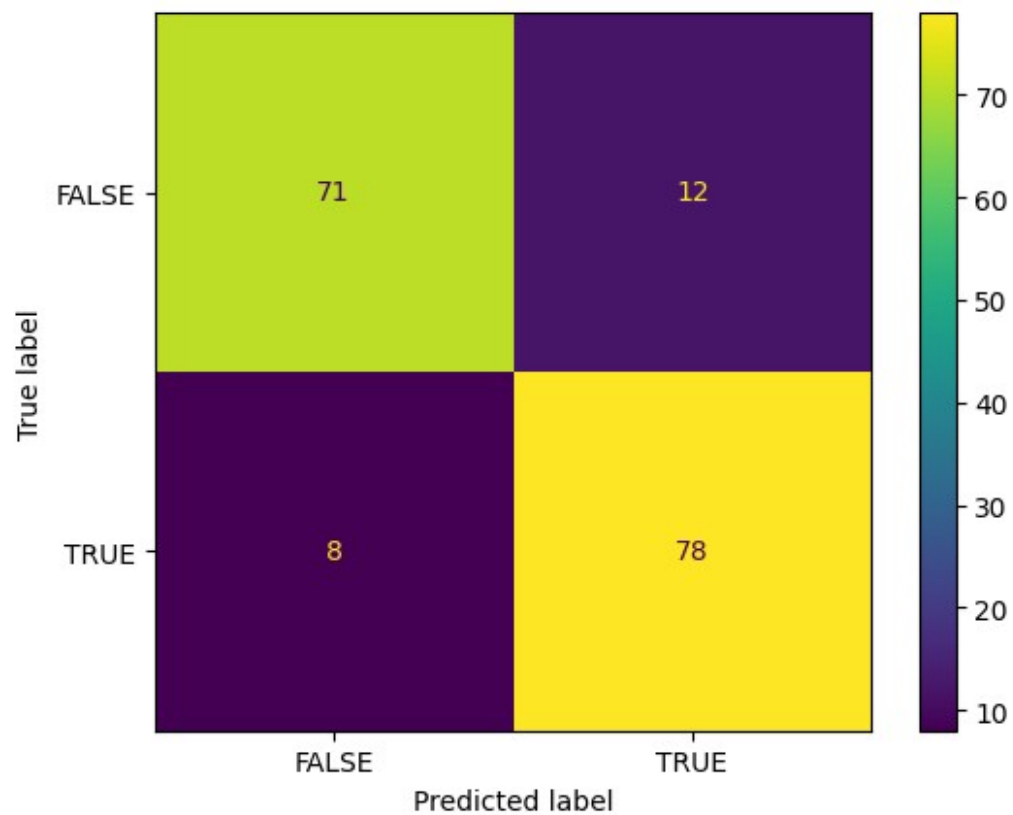


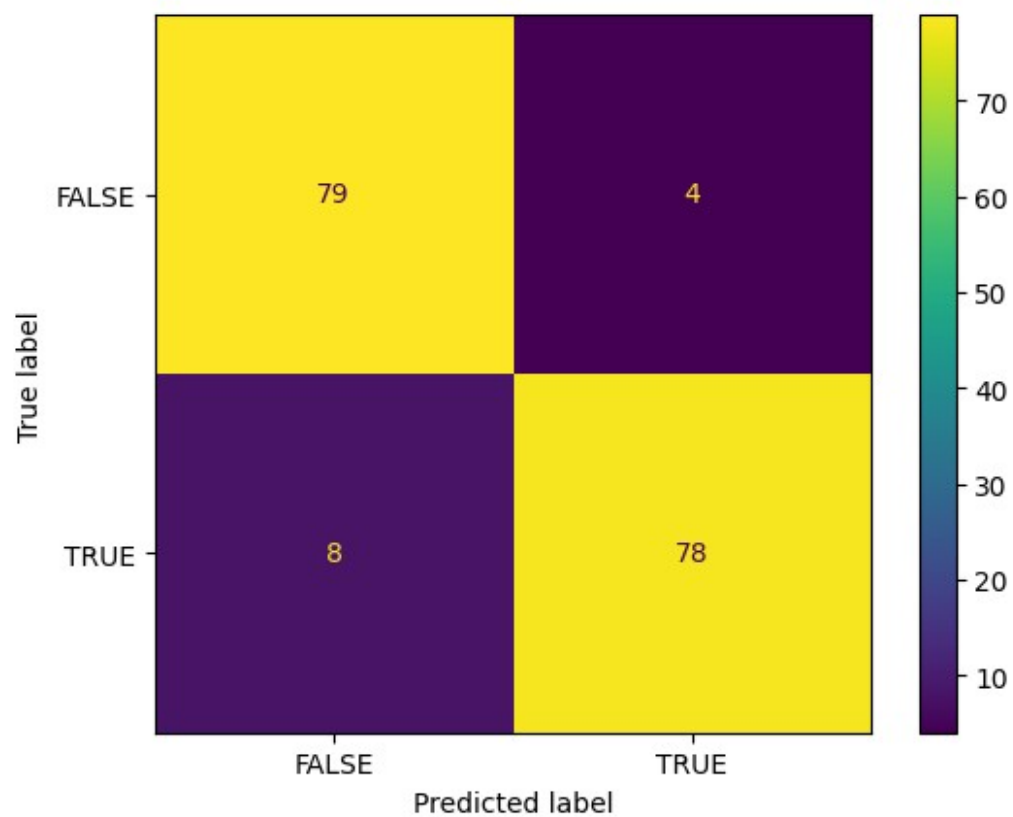
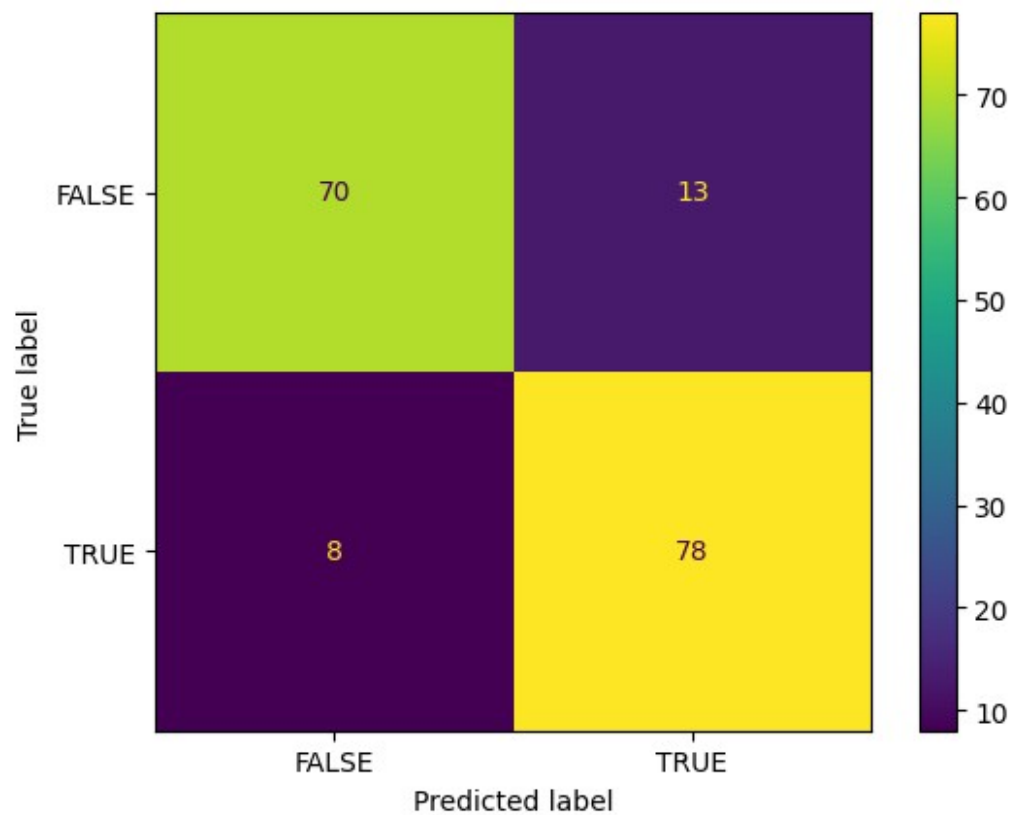


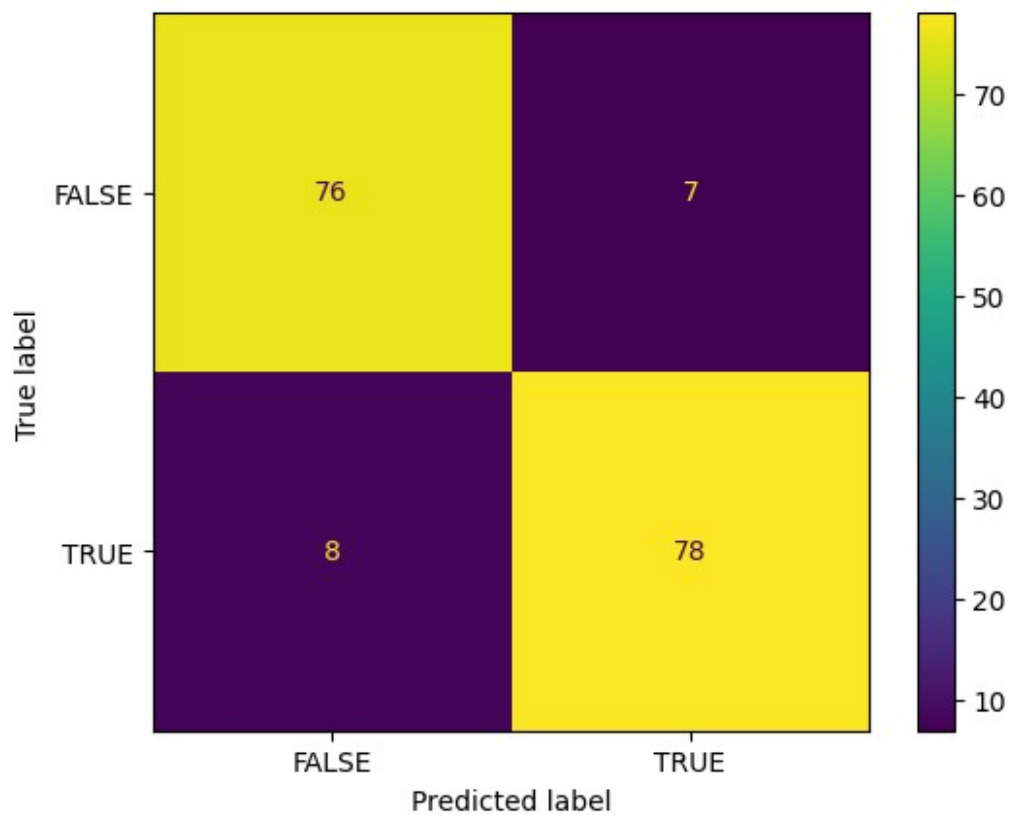
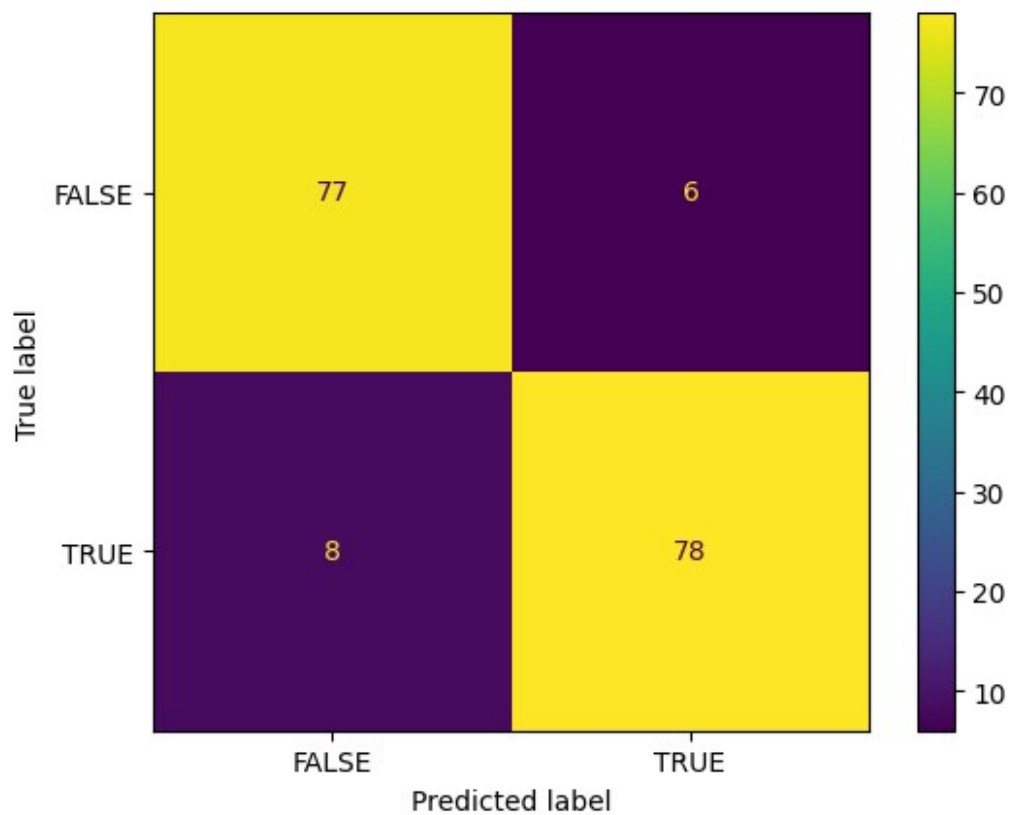


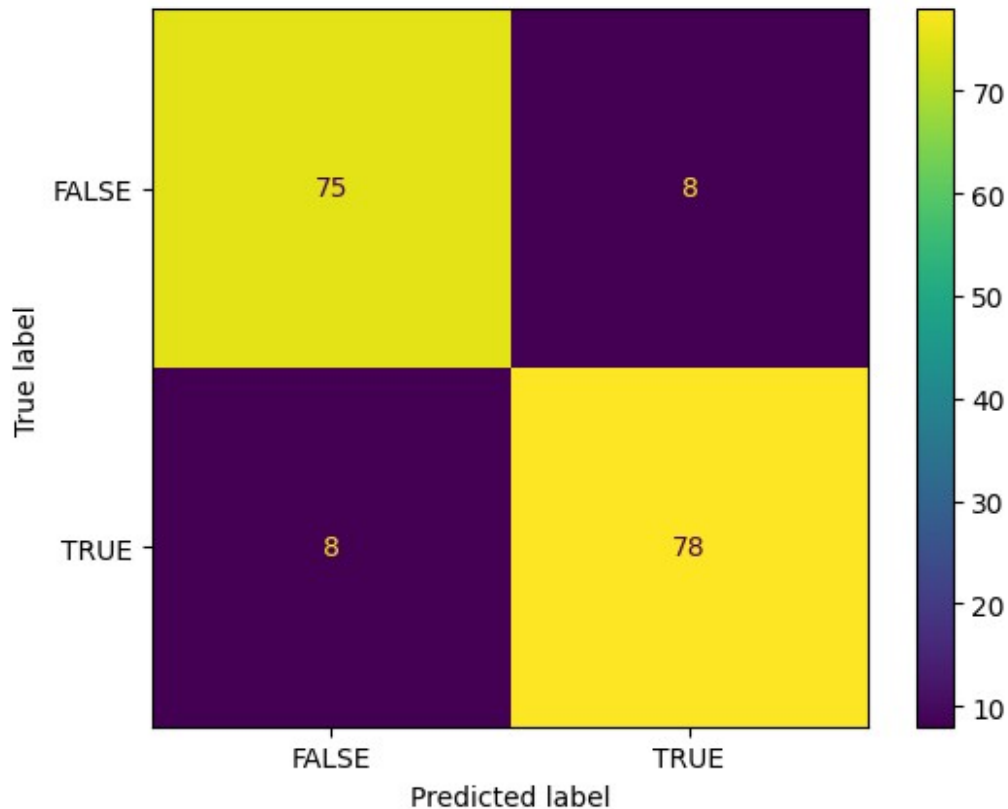












##Etape 3 : Classification selon la colonne TEXT + extraction/application d'entités nommées

Avant de classifier on applique les entités nommées, Cette fonction utilise Spacy pour extraire les entités nommées à partir d'une liste de titres et les stocke dans une liste pour être affichées avec leurs labels correspondants.

```

texte=dftrain['title']
#Créer une liste pour stocker les entités nommées
entities = []
# Traiter chaque texte individuellement et ajouter les entités à la liste
for phrase in texte:
    phrase_str = str(phrase) # Convertir l'élément en chaîne de caractères
    doc = nlp(phrase_str)
    for ent in doc.ents:
        entities.append((ent.text, ent.label_))

# Afficher les entités nommées
for entity in entities:
    print(entity[0], entity[1])

```

JK Rowling Confirms Stance Against Transgender Women ORG
MI Sec PERSON
State Official Caught On Video Telling Volunteers ORG
Antrim County GPE
Sarah Parker PERSON
Supreme Court ORG
Trump Leading PERSON
tens of thousands CARDINAL
Britain GPE
Ministry of Ayurveda, Yoga & Naturopathy ORG
Unani PERSON
Siddha PERSON
Homoeopathy PERSON
Ayurveda ORG
Siddha PERSON
Rand Paul PERSON
111 CARDINAL
NHS ORG
Scott Walker PERSON
Mary Burke PERSON
the last century DATE
1918 DATE
Cecile Viboud PERSON
the National Institutes of Health's Fogarty International Center ORG
the "Great Influenza" ORG
an estimated 675,000 CARDINAL
the United States GPE
covid-19 PERSON
10 CARDINAL
covid-19 PERSON
covid-19 DATE
about 6 percent PERCENT
the United States GPE
less than 1 percent PERCENT
Coronavirus Updates ORG
New York GPE
Andrew M. Cuomo PERSON
Monday DATE
New York City GPE
25 percent PERCENT
8.8 million CARDINAL
more than 12,000 CARDINAL
covid-19 PERSON
another 5,000 CARDINAL
between 0.5 CARDINAL
0.8 percent PERCENT
recent weeks DATE
Cuomo PERSON
Monday DATE
New York GPE

0.5 percent PERCENT
one CARDINAL
200 CARDINAL
0.5 percent PERCENT
Viboud PERSON
covid-19 PERSON
more than two CARDINAL
three CARDINAL
Epidemiologists NORP
between 40 to CARDINAL
the next couple of years DATE
Jeffrey Shaman PERSON
Columbia University ORG
Shaman PERSON
only 1 CARDINAL
12 CARDINAL
the United States GPE
0.6 percent PERCENT
New York City GPE
the United States GPE
1 million CARDINAL
half CARDINAL
Shaman PERSON
20 CARDINAL
Monday DATE
covid-19 PERSON
George Gilder PERSON
Kevin McCullough PERSON
Town Hall FAC
last week DATE
Antibody Testing: Proves We've Been Had WORK_OF_ART
New York State GPE
7.4% PERCENT
two CARDINAL
first ORDINAL
covid-19 PERSON
second ORDINAL
Viboud PERSON
China GPE
recent days DATE
Santa Clara County GPE
Calif. GPE
Silicon Valley LOC
early April DATE
50 to 85 CARDINAL
between 0.12 CARDINAL
0.2 percent PERCENT
covid-19 PERSON
0.1 percent PERCENT
only half CARDINAL

Viboud PERSON
Shaman PERSON
one-quarter DATE
Santa Clara GPE
Statisticians NORP
Santa Clara GPE
Stanford University ORG
Shaman PERSON
Shaman PERSON
New York City GPE
53,000 CARDINAL
the United States GPE
Lawrence O'Donnell' PERSON
Monday, September 16th, 2013 DATE
£570 billion MONEY
the NHS Long Term Plan LOC
Harry PERSON
Meghan PERSON
2.4 MONEY
At least 13 CARDINAL
Israelis NORP
Pfizer ORG
a month DATE
the US Food and Drug Administration ORG
Israel GPE
20 percent PERCENT
the end of December DATE
Israelis NORP
At least 13 CARDINAL
Pfizer ORG
Israeli NORP
Ynet ORG
the Health Ministry ORG
at least 28 hours TIME
one CARDINAL
Ynet ORG
second ORDINAL
Israel GPE
Health Ministry ORG
second ORDINAL
first ORDINAL
Israeli NORP
Ynet ORG
Galia Rahav PERSON
the Infectious Diseases Unit ORG
Sheba Medical Center ORG
second ORDINAL
first ORDINAL
second ORDINAL
first ORDINAL

Last month DATE
FDA ORG
Bell ORG
four CARDINAL
three CARDINAL
Pfizer PERSON
four CARDINAL
FDA ORG
Bell ORG
US GPE
Bell ORG
the past several weeks DATE
Pfizer ORG
December DATE
UK GPE
first ORDINAL
Mexico GPE
early January DATE
minutes TIME
Portugese NORP
Yahaya Bello PERSON
Labour ORG
100,000 CARDINAL
3 years DATE
OMINOUS ORG
U.S. GPE
1776 DATE
SIGNAL ORG
Delta Force Raids Biden Compound ORG
Ukraine GPE
One CARDINAL
Tetyana Obukhanych ORG
Ph.D. WORK_OF_ART
the Rockefeller University ORG
New York GPE
Harvard ORG
British Columbia GPE
Quebec GPE
2011 DATE
48% PERCENT
PhD WORK_OF_ART
one CARDINAL
two CARDINAL
a few years ago DATE
American NORP
first ORDINAL
two CARDINAL
11 DATE
Ukraine GPE
PhD WORK_OF_ART

Google ORG
Barack Obama PERSON
Historical Data ORG
Global Warming ORG
White House ORG
Chicago GPE
Israel GPE
Trump ORG
Lebanese Govt ORG
Confirm ORG
Veterans NORP
The Squad Wants Bible Deemed To Be 'Hate Speech ORG
2040 DATE
Dan Jarvis PERSON
Winter DATE
Rubio Comments ORG
U.S. GPE
NAMES ORG
ON CHINA COMMUNIST PARTY ORG
Biden PERSON
\$3 Trillion MONEY
Plane GPE
One CARDINAL
four CARDINAL
Northern Ireland GPE
Hurricane Patricia EVENT
The Global Warming Scare ORG
Grand Rapids GPE
Ilhan Omar Tells PERSON
Minnesota LOC
Muslim NORP
One CARDINAL
Tilapia ORG
Tilapia ORG
Wake Forest University School of Medicine ORG
Tilapia PERSON
Tilapia ORG
Tilapia ORG
one CARDINAL
Tilapia PERSON
Tilapia ORG
Tilapia PERSON
Tilapia PERSON
Tilapia GPE
Florida GPE
Greenland GPE
annual DATE
Nigeria GPE
Treasury ORG
Russia GPE

Scientific Data ORG
Hoax ORG
a Fake Pandemic WORK_OF_ART
Boris Johnson PERSON
EU ORG
Meghan Markle PERSON
America GPE
first ORDINAL
Buffalo Cops Charged ORG
Felony Assault for Knocking Down Elderly Man ORG
Vladimir Putin PERSON
Europe LOC
Nicola Sturgeon's ORG
Historical Data ORG
Global Warming ORG
Laura Trott PERSON
Jason Kenny PERSON
Team GB's ORG
Olympics EVENT
Trump Revokes All ORG
First ORDINAL
650 CARDINAL
UK GPE
Unknowns GPE
Egypt GPE
The New York Times ORG
DISGRACEFUL ORG
EU ORG
British NORP
140MILLION MONEY
four million CARDINAL
a year DATE
England GPE
Wales GPE
Wednesday 25 April 2018 DATE
Conor Lamb PERSON
Gingrich Tragedy - PERSON
Broward County Sheriff Fired For Lying About Parkland ORG
The World Health Organization ORG
months DATE
WHO ORG
WHO ORG
34 CARDINAL
Monday October 5th DATE
Michael Ryan PERSON
WHO ORG
roughly 10% PERCENT
around 35 million CARDINAL
Margaret Harris PERSON
WHO ORG

WHO ORG
Ryan PERSON
roughly 7.8 billion CARDINAL
10% PERCENT
780 million CARDINAL
1,061,539 CARDINAL
0.14% PERCENT
0.14% PERCENT
24 CARDINAL
WHO ORG
3.4% PERCENT
March DATE
Covid PERSON
IFR ORG
0.14% PERCENT
Covid PERSON
Dr Ryan's PERSON
WHO ORG
Covid NORP
White House ORG
Chicago GPE
111 CARDINAL
NHS ORG
Fauci Hold PERSON
CDC ORG
Overnight TIME
Ohio Sets Up COVID-19 FEMA Camps ORG
Global Ocean Circulation ORG
Washington State GPE
four million CARDINAL
a year DATE
TEXAS RURAL HOSPITAL ORG
1995-2015 DATE
Putin's End-of-Year Press Conference PERSON
Quotes GPE
Lawrence O'Donnell' PERSON
Monday, September 16th, 2013 DATE
WADA GPE
Moscow GPE
IOC ORG
Olympics EVENT
DEMOCRATS NORP
Marine Corps ORG
Caucasian Jack PERSON
today DATE
James I about PERSON
four centuries ago DATE
Duane Carr PERSON
the University of Tennessee College of Medicine ORG
Victor Buhler PERSON

St. Joseph Hospital FAC
Kansas City GPE
thousands CARDINAL
Sheldon Sommers PERSON
Pathologist NORP
Lenox Hill Hospital ORG
New York GPE
Brigitte ORG
Youtube PERSON
German NORP
Rich White's PERSON
Smoke Screens PERSON
Jan Zeldenrust PERSON
Dutch NORP
the Government of Holland ORG
1951 – 1984 DATE
1980 DATE
Dutch NORP
these days DATE
Coal ORG
First ORDINAL
emphysema PERSON
4 CARDINAL
5 CARDINAL
4 CARDINAL
8) CARDINAL
first ORDINAL
emphysema PERSON
secondly ORDINAL
emphysema PERSON
Delhi GPE
'Delhi GPE
Delhi GPE
Indian NORP
Delhi GPE
Indian NORP
Delhi GPE
'Delhi GPE
emphysema PERSON
one CARDINAL
BioFlex ORG
firstly ORDINAL
secondly ORDINAL
the University of Arkansas ORG
Villanova University ORG
Marquette University ORG
more than 500 CARDINAL
U.S. GPE
Canadian NORP
Scot Burton PERSON

the Sam M. Walton College of Business ORG
two CARDINAL
The New York Times ORG
5 CARDINAL
American NORP
5 CARDINAL
Vanuatu ORG
Cyclone Pam PERSON
Wisconsin GPE
Newly ORG
the Department of Instruction ORG
the past year DATE
Wisconsin GPE
2nd DATE
41st ORDINAL
more than half CARDINAL
today DATE
the Walker Administration ORG
Democratic Party of Wisconsin Chair ORG
Martha Laning PERSON
Thursday DATE
last year DATE
State ORG
Scott Walker PERSON
Wisconsin GPE
second ORDINAL
five days DATE
Walker's ORG
State ORG
the last six years DATE
36 CARDINAL
22.0 CARDINAL
20.0 CARDINAL
Wisconsin GPE
Midwest LOC
Kentucky GPE
41st ORDINAL
Wisconsin GPE
Wisconsin GPE
fourth ORDINAL
K-12 PRODUCT
2015-16 DATE
the Center on Budget and Policy Priorities ORG
Wisconsin GPE
Wisconsin GPE
Midwest LOC
ten CARDINAL
Wisconsin GPE
Republican NORP
EU ORG

McFaul PERSON
Russian NORP
Putin PERSON
NBA Players Wear Special Lace Collars To Honor Ruth Bader Ginsburg ORG
Ghislaine Maxwell PERSON
COVID-19 ORG
New Hampshire GPE
NHS ORG
Marco Rubio Just Publicly Shamed His Own Constituents For Flocking
PERSON
ACCLAIMED ISRAELI ASTROPHYSICIST ORG
Jeremy Corbyn Vows PERSON
George Soros PERSON
Nicola Sturgeon's ORG
five CARDINAL
Ireland GPE
one CARDINAL
two CARDINAL
Obama PERSON
November 14, 2014 DATE
Fastest Rate FAC
Last 28 Centuries DATE
Trump ORG
thousands CARDINAL
Wisconsin GPE
the Russian Federation GPE
the United Nations ORG
Justine Greening PERSON
CDC ORG
COVID-19 ORG
U.S. GPE
CDC ORG
between March and December 2020 DATE
1.5 percent PERCENT
two months DATE
0.5 percent PERCENT
the first 20 days DATE
less than 2 percent PERCENT
100 days DATE
CDC ORG
Vanuatu ORG
Cyclone Pam PERSON
Australian NORP
Paid Liberal Trolls of America ORG
6 hours TIME
30 MONEY
40 MONEY
70 cents MONEY
1 MONEY
Soros PERSON

Joe Barron PERSON
George Soros PERSON
500 MONEY
Art Tubolls PERSON
163 CARDINAL
Soros PERSON
Deluth GPE
Charlie Kirk PERSON
Turning Point PERSON
AAA ORG
Oregon GPE
millions CARDINAL
1 CARDINAL
Hillary Caught PERSON
Kamala Harris PERSON
United States GPE
UK GPE
1,783 CARDINAL
690,773 CARDINAL
the year to March DATE
British NORP
13,000 CARDINAL
England GPE
2010 DATE
April DATE
May this year DATE
3,264 CARDINAL
NMC ORG
more than 4,500 CARDINAL
UK GPE
Saffron Cordery ORG
NHS Providers ORG
NHS ORG
NHS ORG
Brexit PERSON
UK GPE
NHS ORG
AAA ORG
Oregon GPE
millions CARDINAL
1 CARDINAL
Conor Lamb PERSON
B.C. GPE
ALS ORG
years DATE
24-hour TIME
More Than 10,000 CARDINAL
Cast Ballots PERSON
Michigan GPE
Miles PERSON

1984 DATE
the New York Times ORG
Trump ORG
NHS ORG
30% PERCENT
today DATE
James I about PERSON
four centuries ago DATE
Duane Carr PERSON
the University of Tennessee College of Medicine ORG
Victor Buhler PERSON
St. Joseph Hospital FAC
Kansas City GPE
thousands CARDINAL
Sheldon Sommers PERSON
Pathologist NORP
Lenox Hill Hospital ORG
New York GPE
Brigitte ORG
Youtube PERSON
German NORP
Rich White's PERSON
Smoke Screens PERSON
Jan Zeldenrust PERSON
Dutch NORP
the Government of Holland ORG
1951 – 1984 DATE
1980 DATE
Dutch NORP
these days DATE
Coal ORG
First ORDINAL
emphysema PERSON
4 CARDINAL
5 CARDINAL
4 CARDINAL
8) CARDINAL
first ORDINAL
emphysema PERSON
secondly ORDINAL
emphysema PERSON
Delhi GPE
'Delhi GPE
Delhi GPE
Indian NORP
Delhi GPE
Indian NORP
Delhi GPE
'Delhi GPE
emphysema PERSON

one CARDINAL
BioFlex ORG
firstly ORDINAL
secondly ORDINAL
the University of Arkansas ORG
Villanova University ORG
Marquette University ORG
more than 500 CARDINAL
U.S. GPE
Canadian NORP
Scot Burton PERSON
the Sam M. Walton College of Business ORG
two CARDINAL
The Prices Of Food Items Are Coming Down ORG
Garba Shehu PERSON
Belgian NORP
Fremault PERSON
Brussels GPE
5 CARDINAL
Celine Fremault PERSON
the Brussels-Capital Region Responsible For Housing, Quality Of Life,
Environment And Energy ORG
5 CARDINAL
Brussels GPE
Fremault PERSON
5 CARDINAL
Belgian NORP
9 CARDINAL
95 mW/ QUANTITY
m2 PERSON
1 mW/m2 QUANTITY
thousands CARDINAL
Brussels GPE
EU ORG
one CARDINAL
2 CARDINAL
5 CARDINAL
EU ORG
EU ORG
Celine Fremault PERSON
North America LOC
Celine Fremault PERSON
Brussel GPE
5 CARDINAL
6 minute TIME
UN ORG
5 CARDINAL
zero CARDINAL
Tom Wheeler PERSON
FCC Chair ORG

5 CARDINAL
5 CARDINAL
5 CARDINAL
5 CARDINAL
US GPE
Hundreds CARDINAL
Martin Pall PERSON
5 CARDINAL
Earth LOC
5 CARDINAL
AI ORG
5 CARDINAL
Brussels GPE
first ORDINAL
5 CARDINAL
dozens CARDINAL
5 CARDINAL
21 CARDINAL
USA GPE
March 13, 2019 DATE
Portland GPE
FCC ORG
EMF Safety Network ORG
WhatIs5G.info ORG
5 CARDINAL
TRUMP ORG
Obama GPE
Reagan PERSON
Same Point ORG
Presidencies FAC
British Government Study Confirms Covid-19 Vaccine Risk: Infections
ORG
Fortnight GPE
January DATE
80 CARDINAL
Pemberley House ORG
Basingstoke GPE
England GPE
a third CARDINAL
24 CARDINAL
Germany GPE
British NORP
Gibraltar GPE
Pfizer ORG
16th January DATE
33 thousand CARDINAL
2761 CARDINAL
9 CARDINAL
December DATE
almost a hundred CARDINAL

The United Arab Emirates GPE
Chinese NORP
Sinopharm ORG
Pfizer ORG
December DATE
Amer Sharif PERSON
the Covid-19 Command & Control Centre ORG
Dubai GPE
UAE ORG
first ORDINAL
100% PERCENT
10th February DATE
daily DATE
18 CARDINAL
first ORDINAL
last spring DATE
Israel GPE
19th December DATE
New York Times ORG
Alex Berenson PERSON
Israelis NORP
January DATE
Palestine GPE
December DATE
Palestinians NORP
Israeli NORP
Hervé Seligmann PERSON
Aix-Marseilles University ORG
about 40 CARDINAL
the three weeks DATE
first ORDINAL
second ORDINAL
Israel GPE
Pfizer ORG
the first week DATE
Raine PERSON
UK GPE
MHRA ORG
two CARDINAL
first ORDINAL
The Public Health England ORG
Matt Hancock PERSON
80% PERCENT
48% PERCENT
first ORDINAL
Pfizer ORG
Astra ORG
Zeneca NORP
Mary Ramsay PERSON
PHE ORG

hundreds CARDINAL
British NORP
the Bill & Melinda Gates Foundation LAW
Covid PERSON
Covid PERSON
Commission ORG
Hungary GPE
Viktor Orban PERSON
Referendum GPE
October 2 DATE
two weeks ago DATE
Jean Claude Juncker PERSON
Governments PERSON
EU ORG
solidarity ORG
Tory PERSON
Steve Baker PERSON
Jean Claude Juncker PERSON
democratic NORP
the European Union ORG
The Greatest Hoax Ever Perpetrated on an Unsuspecting Public
WORK_OF_ART
Ohio GPE
Tesco ORG
119 CARDINAL
last year DATE
England GPE
Wales GPE
This Winter DATE
Meets With PERSON
GOP ORG
1984 DATE
the New York Times ORG
Trump ORG
Barnardo ORG
Coronavirus LOC
44% PERCENT
Marijuana PERSON
Normandy Four PERSON
State ORG
Democrats NORP
Two CARDINAL
Georgia GPE
Dan Jarvis PERSON
Winter DATE
Massive International Study Shows Countries ORG
79% PERCENT
Lower Mortality Rate ORG
100,000 CARDINAL
American NORP

Trump ORG
Supreme Court ORG
Obamacare NORP
50,000 CARDINAL
Chinese NORP
The New York Times Affirms ORG
Capitol FAC
Legislature ORG
over 200,000 CARDINAL
NHS ORG
2010 DATE
£330 million MONEY
Biden PERSON
the Second Amendment LAW
May 2018 DATE
fourth ORDINAL
the month of May DATE
NOAA ORG
1880 DATE
March-May DATE
fourth ORDINAL
monthly DATE
NOAA ORG
National Centers for Environmental Information ORG
NOAA ORG
May 2018 DATE
May DATE
1.44 CARDINAL
F PRODUCT
the 20th century DATE
58.6 CARDINAL
F PRODUCT
fourth ORDINAL
May DATE
1880-2018 DATE
years 2014-2018 DATE
five CARDINAL
2016 CARDINAL
May DATE
1.58 CARDINAL
May 2018 DATE
the 42nd consecutive May DATE
the 401st consecutive month DATE
the 20th century DATE
North America LOC
Europe LOC
Asia LOC
Atlantic LOC
Pacific LOC
Indian Oceans NORP

May DATE
Canada GPE
Atlantic Ocean LOC
Greenland GPE
May DATE
2.05 CARDINAL
the 20th century DATE
52.0 CARDINAL
F PRODUCT
May DATE
2011 DATE
2013 DATE
seventh ORDINAL
May DATE
139-year DATE
May 2018 DATE
U.S. GPE
Europe LOC
5.4 CARDINAL
Canada GPE
Russia GPE
5.4 CARDINAL
Europe LOC
May DATE
continental ORG
1910 DATE
4.97 CARDINAL
2003 DATE
1.66 CARDINAL
F PRODUCT
May 2018 DATE
first ORDINAL
May DATE
3.6 CARDINAL
F PRODUCT
2.0 CARDINAL
European NORP
May DATE
Asia LOC
May DATE
2009 DATE
May DATE
1.19 CARDINAL
the 20th century DATE
monthly DATE
61.3 CARDINAL
fourth ORDINAL
May DATE
years 2014-2018 DATE
five CARDINAL

2016 CARDINAL
May DATE
1.39 CARDINAL
May 2018 DATE
May DATE
Arctic LOC
second ORDINAL
40-year DATE
420,000 square miles QUANTITY
8.1 percent PERCENT
1981-2010 DATE
the National Snow and Ice Data Center(link ORG
NOAA ORG
NASA ORG
May Arctic LOC
2016 DATE
Arctic LOC
Bering GPE
Chukchi Seas PERSON
May DATE
330,000 square miles QUANTITY
8.6 percent PERCENT
1981-2010 DATE
third ORDINAL
May DATE
Antarctic sea LOC
May DATE
the Weddell Sea LOC
Seasonal DATE
March-May 2018 DATE
March-May DATE
1.48 CARDINAL
the 20th century DATE
56.7 CARDINAL
F PRODUCT
fourth ORDINAL
March-May DATE
1880-2018 DATE
0.45 CARDINAL
F cooler PRODUCT
2016 DATE
March-May DATE
2014 DATE
three-month DATE
Europe LOC
the Middle East LOC
Africa LOC
China GPE
Mongolia GPE
South America LOC

Atlantic LOC
Indian NORP
Pacific Oceans NORP
March-May 2018 DATE
March-May DATE
2.34 CARDINAL
the 20th century DATE
46.4 CARDINAL
F PRODUCT
fifth ORDINAL
March-May DATE
139-year DATE
Five CARDINAL
March-May 2018 DATE
nine CARDINAL
continental ORG
1910 DATE
Europe LOC
South America LOC
third ORDINAL
March-May DATE
March-May DATE
1.15 CARDINAL
the 20th century DATE
61.0 CARDINAL
F PRODUCT
fourth ORDINAL
March-May DATE
Year-to-Date DATE
January-May 2018 DATE
1.39 CARDINAL
the 20th century DATE
55.5 CARDINAL
F PRODUCT
2010 DATE
fourth ORDINAL
January-May DATE
139-year DATE
2018 year DATE
0.59 CARDINAL
2016 DATE
2.18 CARDINAL
the 20th century DATE
42.8 CARDINAL
F PRODUCT
2002 DATE
fifth ORDINAL
January-May DATE
1.08 CARDINAL
the 20th century DATE

60.8 CARDINAL
fifth ORDINAL
January-May DATE
1880-2018 DATE
Wisconsin GPE
Laura Trott PERSON
Jason Kenny PERSON
Team GB's ORG
Olympics EVENT
this week DATE
Scottish National Party ORG
Amazon ORG
Obama ORG
BRAZIL GPE
AstraZeneca ORG
Oxford University ORG
Anvisa ORG
one CARDINAL
three CARDINAL
Brazil GPE
Oxford University ORG
the UK Government ORG
100 million CARDINAL
US GPE
September 6 DATE
India GPE
South Africa GPE
AstraZeneca ORG
Europe LOC
Inclusive Vaccine Alliance ORG
400 million CARDINAL
European NORP
UK GPE
30 million CARDINAL
BioNtech/Pfizer ORG
60 million CARDINAL
Valneva - in PERSON
six CARDINAL
UK GPE
Patrick Vallance PERSON
next spring DATE
the Commons and Lords National Security Strategy Committee ORG
AstraZeneca ORG
the turn of the year DATE
UK GPE
Vaccine Taskforce FAC
Kate Bingham PERSON
UK GPE
four CARDINAL
six CARDINAL

three CARDINAL
one CARDINAL
two CARDINAL
Covid PERSON
26,688 CARDINAL
UK GPE
789,229 CARDINAL
191 CARDINAL
today DATE
Fastest Rate FAC
Last 28 Centuries DATE
MSM ORG
Italy GPE
Nazi NORP
pro-Russian NORP
British NORP
Brexit Britain PERSON
EU ORG
SURGES ORG
month DATE
Corbyn PERSON
The New York Times Affirms ORG
Trump ORG
Supreme Court ORG
Obamacare NORP
San Diego GPE
Democrat NORP
Peters PERSON
Trump ORG
Mexico GPE
5 CARDINAL
Miami GPE
Unknowns GPE
Egypt GPE
The New York Times ORG
Carnival Cruise Lines ORG
Biden PERSON
Russia GPE
SolarWinds ORG
N.Y. GPE
Rick Perry PERSON
CANCER IS CANDIDA/FUNGUS AND CAN BE CURED ORG
five CARDINAL
Vigil PERSON
13-year-old DATE
Pittsburg Area Antifa LOC
Tweets Warning PERSON
Trump WORK_OF_ART
Sunday DATE
noon TIME

2055 CARDINAL
5 CARDINAL
5 CARDINAL
NYC ORG
ICU ORG
Cameron Kyle-Sidell PERSON
tens of thousands CARDINAL
New Yorkers NORP
30,000 feet QUANTITY
30% PERCENT
The Global Warming Scare ORG
N.Y. GPE
A decade DATE
Scottish National Party ORG
Capitol Shooting Exposed ORG
Hollywood GPE
Wisconsin GPE
Newly ORG
the Department of Instruction ORG
the past year DATE
Wisconsin GPE
2nd DATE
41st ORDINAL
more than half CARDINAL
today DATE
the Walker Administration ORG
Democratic Party of Wisconsin Chair ORG
Martha Laning PERSON
Thursday DATE
last year DATE
State ORG
Scott Walker PERSON
Wisconsin GPE
second ORDINAL
five days DATE
Walker's ORG
State ORG
the last six years DATE
36 CARDINAL
22.0 CARDINAL
20.0 CARDINAL
Wisconsin GPE
Midwest LOC
Kentucky GPE
41st ORDINAL
Wisconsin GPE
Wisconsin GPE
fourth ORDINAL
K-12 PRODUCT
2015-16 DATE

the Center on Budget and Policy Priorities ORG
Wisconsin GPE
Wisconsin GPE
Midwest LOC
ten CARDINAL
Wisconsin GPE
Republican NORP
Bill Gates PERSON
COVID-19 Vaccine PERSON
Nearly 1,000,000 CARDINAL
Britons GPE
Brexit PERSON
Illinois General Assembly ORG
NHS ORG
FAKED DATE
Nancy PERSON
These United States GPE
El Niño ORG
2015 DATE
Apocalyptic Sea-Level Rise ORG
Tlaib Files Lawsuit ORG
Alabama Supreme Court Recognizes Unborn ORG
Pakistani NORP
Meesha Shafi PERSON
3 years DATE
Ali Zafar PERSON
Thousands CARDINAL
New Jersey Sept GPE
14, 2020 DATE
Videos GPE
UFO Sighting News ORG
Feds Handcuff 'Irrational' House PERSON
Raiding Her Office ORG
Rastafarian Prez PERSON
Nana Akufo-Addo ORG
FAKED DATE
Pope PERSON
80 CARDINAL
Child Trafficking, Fraud – Conservative WORK_OF_ART
NHS ORG
1bn ORDINAL
June DATE
Earth LOC
European NORP
Tony Abbott PERSON
the Russian Federation GPE
the United Nations ORG
Central Europe LOC
Brexit PERSON
Britain GPE

Slovak GPE
TEXAS RURAL HOSPITAL ORG
1995-2015 DATE
Pennsylvania GPE
Files Memorandum PERSON
2020 DATE
Tom Hanks PERSON
65 DATE
Passes Away PERSON
Australia GPE
Great Barrier Reef WORK_OF_ART
95-Degree Days DATE
Google ORG
Adam Hasner PERSON
COVID ORG
11-year-olds ORDINAL
Detroit GPE
Voter Fraud PERSON
At least 13 CARDINAL
Israelis NORP
Pfizer ORG
a month DATE
the US Food and Drug Administration ORG
Israel GPE
20 percent PERCENT
the end of December DATE
Israelis NORP
At least 13 CARDINAL
Pfizer ORG
Israeli NORP
Ynet ORG
the Health Ministry ORG
at least 28 hours TIME
one CARDINAL
Ynet ORG
second ORDINAL
Israel GPE
Health Ministry ORG
second ORDINAL
first ORDINAL
Israeli NORP
Ynet ORG
Galia Rahav PERSON
the Infectious Diseases Unit ORG
Sheba Medical Center ORG
second ORDINAL
first ORDINAL
second ORDINAL
first ORDINAL
Last month DATE

FDA ORG
Bell ORG
four CARDINAL
three CARDINAL
Pfizer PERSON
four CARDINAL
FDA ORG
Bell ORG
US GPE
Bell ORG
the past several weeks DATE
Pfizer ORG
December DATE
UK GPE
first ORDINAL
Mexico GPE
early January DATE
minutes TIME
Portugese NORP
OMINOUS ORG
U.S. GPE
Brexit Britain PERSON
EU ORG
SURGES ORG
FDA Shocking Study: Cells Used ORG
Rick Scott PERSON
Democrats NORP
Liberal States GPE
Kamala Harris Details on How Their Ancestors Owned Slaves ORG
The Unvaccinated Amish Rarely Get Cancer ORG
Britons GPE
Brexit PERSON
Antarctica LOC
Antarctica LOC
Ireland GPE
one CARDINAL
two CARDINAL
Jon Evans PERSON
Up to a third CARDINAL
25 years DATE
Superbowl Champions Refuse Invitation ORG
White House ORG
Commission ORG
Hungary GPE
Viktor Orban PERSON
Referendum GPE
October 2 DATE
two weeks ago DATE
Jean Claude Juncker PERSON
Governments PERSON

EU ORG
solidarity ORG
Tory PERSON
Steve Baker PERSON
Jean Claude Juncker PERSON
democratic NORP
the European Union ORG
AUTOPSY ORG
Chadwick Boseman PERSON
Toronto GPE
Today DATE
USCIS ORG
COVID ORG
Pentagon ORG
Bail Hearing PERSON
Ocala GPE
Florida GPE
Romney Endorses PERSON
Joe Biden PERSON
Alex Trebek Becomes PERSON
U.S. GPE
Google ORG
Israeli NORP
first ORDINAL
year DATE
Dan Aridor PERSON
Accelerated Evolution Biotechnologies Ltd. ORG
2000 DATE
ITEK GPE
SoAP ORG
day one DATE
a few weeks DATE
Aridor PERSON
Ilan Moran PERSON
Ilan Moran PERSON
an estimated 18.1 million MONEY
each year DATE
the International Agency for Research on Cancer ORG
sixth ORDINAL
second ORDINAL
second ORDINAL
Aridor ORG
Ilan Morad PERSON
SoAP ORG
2018 DATE
the Nobel Prize WORK_OF_ART
two CARDINAL
Morad GPE
first ORDINAL
Morad GPE

Morad GPE
Hanan Itzhaki PERSON
Morad GPE
at least three CARDINAL
Morad GPE
Morad GPE
three CARDINAL
three CARDINAL
Morad GPE
Morad PERSON
Morad PERSON
12 CARDINAL
Morad PERSON
one CARDINAL
two CARDINAL
Morad GPE
Today DATE
two CARDINAL
Morad GPE
only a few weeks DATE
Aridor GPE
Morad PERSON
first ORDINAL
a few years DATE
four million CARDINAL
a year DATE
Kremlin ORG
Putin PERSON
Russia GPE
Trump ORG
McCain ORG
the South Pole Is Warming LOC
Quickly PERSON
Lee Majors Dead PERSON
83;\$6 Million CARDINAL
2020 DATE
CLARKSBURG ORG
Jared Henry ORG
Maddie Mansell PERSON
Buckhannon Pike PERSON
Nutter Fort GPE
Mansell PERSON
Henry PERSON
Mansell PERSON
Mansell PERSON
Nikki Bowmar PERSON
the U.S. Small Business Administration ORG
Bowmar PERSON
approximately 114,391 CARDINAL
West Virginia GPE

99 percent PERCENT
280,213 CARDINAL
nearly 50 percent PERCENT
Bowmar PERSON
Mansell PERSON
first ORDINAL
Christ GPE
George "Gib" Brown PERSON
The James and Law Co. ORG
West Virginia GPE
nearly 30 CARDINAL
Clarksburg GPE
two CARDINAL
1903 DATE
Brown PERSON
James and Law ORG
Brown PERSON
the years DATE
Chamber ORG
the Robinson Grand Performing Arts Center ORG
Clarksburg GPE
Clarksburg GPE
years DATE
Brown PERSON
Dan Taylor PERSON
the West Virginia Community Development Hub's Energizing
Entrepreneurial Communities ORG
the last of three years DATE
four CARDINAL
Grafton ORG
Taylor PERSON
Taylor PERSON
Stephen Mann PERSON
Lewis County GPE
December DATE
Weston GPE
Mann ORG
two CARDINAL
one CARDINAL
401k PRODUCT
Mann PERSON
Manns PERSON
Lewis County GPE
Mann PERSON
Lewis County GPE
West Virginia GPE
Bowmar PERSON
Mann ORG
The Energizing Entrepreneurial Communities ORG
Grafton ORG

Taylor PERSON
All Aboard Grafton FAC
Taylor PERSON
Taylor County PERSON
first ORDINAL
February DATE
Patricia Henderson PERSON
the Taylor County Development Authority ORG
the Taylor County Commission ORG
Taylor County GPE
Weston GPE
Fairs and Festivals Committee ORG
Julia Spelsberg PERSON
Spelsberg PERSON
Weston GPE
North Central West Virginia LOC
The Small Business Administration ORG
Bowmar PERSON
USDA ORG
the Tax Cut FAC
Taylor PERSON
Northern Ireland GPE
Chinese NORP
CDC ORG
Kremlin ORG
Putin PERSON
Russia GPE
163 CARDINAL
George Soros For PERSON
Clinton Foundation ORG
2055 CARDINAL
Florida GPE
11-year-olds ORDINAL
Italy Arrests Cardinals And Seizes ORG
650 CARDINAL
UK GPE
Bloomberg PERSON
CDC ORG
COVID-19 ORG
U.S. GPE
CDC ORG
between March and December 2020 DATE
1.5 percent PERCENT
two months DATE
0.5 percent PERCENT
the first 20 days DATE
less than 2 percent PERCENT
100 days DATE
CDC ORG
Malaria GPE

The Squad Wants Bible Deemed To Be 'Hate Speech ORG
Trudeau Bought PERSON
the War on Drugs EVENT
Biden PERSON
Russia GPE
SolarWinds ORG
HPV ORG
NY Post's 'Smoking Gun ORG
Hunter Biden PERSON
Forensic Analysis Concludes ORG
David Davis PERSON
Canada GPE
Tusk PERSON
Gohmert Responds PERSON
Trump ORG
McCain ORG
United Airlines ORG
9 CARDINAL
Buhari To Resign PERSON
May 2023 DATE
Lai Mohammed PERSON
2015 DATE
Europe LOC
Spain GPE
France GPE
Germany GPE
Belgium GPE
the Netherlands GPE
Sweden GPE
Sunday DATE
Sweden GPE
100,000 CARDINAL
56.40 CARDINAL
U.K. GPE
69.60 CARDINAL
Spain GPE
60.88 CARDINAL
Italy GPE
58.16 CARDINAL
Sunday DATE
Johns Hopkins University ORG
U.K. GPE
fourth ORDINAL
Spain GPE
Italy GPE
sixth ORDINAL
eighth ORDINAL
Europe LOC
two CARDINAL
Democrat Fundraising Machine 'ActBlue Texas ORG

Caught Paying Out Small Sums WORK_OF_ART
Hundreds of Individuals for Unknown Purposes - David Harris Jr ORG
Donald Trump PERSON
anti-American NORP
Kenosha GPE
Blake or Rittenhouse ORG
Global Warming PERSON
75 CARDINAL
MPH ORG
Central Europe LOC
Brexit PERSON
Britain GPE
Slovak GPE
Trump Leading PERSON
Italy Arrests Cardinals And Seizes ORG
Travis Rowley PERSON
Democrats NORP
Kamala Harris Details on How Their Ancestors Owned Slaves ORG
one hour TIME
Biden PERSON
the World Health Organization ORG
PCR ORG
WHO ORG
today DATE
COVID ORG
WHO ORG
COVID ORG
March 2020 DATE
WHO ORG
COVID ORG
COVID ORG
Nigeria GPE
hundreds CARDINAL
Catholics NORP
Muslims NORP
Paul Bettencourt PERSON
Wednesday 25 April 2018 DATE
NHS ORG
1bn ORDINAL
Harry PERSON
Meghan PERSON
2.4 MONEY
Grand Rapids GPE
Britain GPE
Georgia GPE
GOP Areas ORG
DEM Areas PERSON
Tony Abbott PERSON
NBA Players Wear Special Lace Collars To Honor Ruth Bader Ginsburg ORG
Emmett Till's Memorial Sign Shot PERSON

35 days DATE
Bill Withers PERSON
\$2 Million MONEY
Trump Re-election Campaign ORG
New Yorkers NORP
Government ORG
This Winter DATE
Fauci Hold PERSON
US GPE
CDC ORG
Josh Mandel PERSON
British NORP
100 years ago DATE
Wear a Mask WORK_OF_ART
78 Year Old DATE
CIA ORG
Disneyland FAC
California GPE
Texas GPE
Another Violent Leftist Arrested ORG
US Capital Protest ORG
Democrat NORP
34-Year-Old DATE
New York GPE
El Nino ORG
Wisconsin GPE
today DATE
James I about PERSON
four centuries ago DATE
Duane Carr PERSON
the University of Tennessee College of Medicine ORG
Victor Buhler PERSON
St. Joseph Hospital FAC
Kansas City GPE
thousands CARDINAL
Sheldon Sommers PERSON
Pathologist NORP
Lenox Hill Hospital ORG
New York GPE
Brigitte ORG
Youtube PERSON
German NORP
Rich White's PERSON
Smoke Screens PERSON
Jan Zeldenrust PERSON
Dutch NORP
the Government of Holland ORG
1951 – 1984 DATE
1980 DATE
Dutch NORP

these days DATE
Coal ORG
First ORDINAL
emphysema PERSON
4 CARDINAL
5 CARDINAL
4 CARDINAL
8) CARDINAL
first ORDINAL
emphysema PERSON
secondly ORDINAL
emphysema PERSON
Delhi GPE
'Delhi GPE
Delhi GPE
Indian NORP
Delhi GPE
Indian NORP
Delhi GPE
'Delhi GPE
emphysema PERSON
one CARDINAL
BioFlex ORG
firstly ORDINAL
secondly ORDINAL
the University of Arkansas ORG
Villanova University ORG
Marquette University ORG
more than 500 CARDINAL
U.S. GPE
Canadian NORP
Scot Burton PERSON
the Sam M. Walton College of Business ORG
two CARDINAL
EFCC ORG
Theodore Orji PERSON
N521 billion MONEY
ICE Detainer Issued for Suspected Wine Country Arsonist ORG
Sonoma Jail GPE
ASUU ORG
Another Violent Leftist Arrested ORG
US Capital Protest ORG
Democrat NORP
34-Year-Old DATE
New York GPE
Biden Motorcade PERSON
Jay Leno PERSON
Republican NORP
Trump Supporter PERSON
71 DATE

FAKED DATE
Steven Seagal PERSON
Putin PERSON
Russia GPE
Far East LOC
Biden PERSON
Black Delaware State FAC
200,000 MONEY
DEMOCRATS NORP
B.C. GPE
ALS ORG
years DATE
24-hour TIME
Fox News ORG
Jeanine Show PERSON
over 200,000 CARDINAL
NHS ORG
2010 DATE
£330 million MONEY
CO2 CARDINAL
Senate ORG
House ORG
over 4 million CARDINAL
Minneapolis GPE
George Floyd PERSON
Derek Chauvin PERSON
1984 DATE
the New York Times ORG
Trump ORG
Conservatives NORP
MSF ORG
18 CARDINAL
first ORDINAL
Britain GPE
36 MONEY
Israeli NORP
first ORDINAL
year DATE
Dan Aridor PERSON
Accelerated Evolution Biotechnologies Ltd. ORG
2000 DATE
ITEK GPE
SoAP ORG
day one DATE
a few weeks DATE
Aridor PERSON
Ilan Moran PERSON
Ilan Moran PERSON
an estimated 18.1 million MONEY
each year DATE

the International Agency for Research on Cancer ORG
sixth ORDINAL
second ORDINAL
second ORDINAL
Aridor ORG
Ilan Morad PERSON
SoAP ORG
2018 DATE
the Nobel Prize WORK_OF_ART
two CARDINAL
Morad GPE
first ORDINAL
Morad GPE
Morad GPE
Hanan Itzhaki PERSON
Morad GPE
at least three CARDINAL
Morad GPE
Morad GPE
three CARDINAL
three CARDINAL
Morad GPE
Morad PERSON
Morad PERSON
12 CARDINAL
Morad PERSON
one CARDINAL
two CARDINAL
Morad GPE
Today DATE
two CARDINAL
Morad GPE
only a few weeks DATE
Aridor GPE
Morad PERSON
first ORDINAL
a few years DATE
Colin Powell PERSON
Michael Flynn PERSON
Biden PERSON
Friends Busted Partyng and Singing Without Masks or Social Distancing
ORG
One CARDINAL
Tetyana Obukhanych ORG
Ph.D. WORK_OF_ART
the Rockefeller University ORG
New York GPE
Harvard ORG
British Columbia GPE
Quebec GPE

2011 DATE
48% PERCENT
PhD WORK_OF_ART
one CARDINAL
two CARDINAL
a few years ago DATE
American NORP
first ORDINAL
two CARDINAL
11 DATE
Ukraine GPE
PhD WORK_OF_ART
One CARDINAL
Hurricane Patricia EVENT
50,000 MONEY
Capitol Shooting Exposed ORG
Hollywood GPE
ASUU ORG
JK Rowling Confirms Stance Against Transgender Women ORG
78 CARDINAL
Epstein Isle LOC
one hour TIME
Biden PERSON
the World Health Organization ORG
PCR ORG
WHO ORG
today DATE
COVID ORG
WHO ORG
COVID ORG
March 2020 DATE
WHO ORG
COVID ORG
COVID ORG
NHS ORG
the United States GPE
Rick Simpson PERSON
marijuana PERSON
Cannabis PERSON
Marijuana PERSON
Meghan Markle PERSON
America GPE
first ORDINAL
MSM ORG
Italy GPE
Nazi NORP
pro-Russian NORP
the War on Drugs EVENT
2014 DATE
Breaks Heat Record EVENT

Antifa Provocateur PERSON
Earth LOC
400th FAC
British Government Study Confirms Covid-19 Vaccine Risk: Infections
ORG
Fortnight GPE
January DATE
80 CARDINAL
Pemberley House ORG
Basingstoke GPE
England GPE
a third CARDINAL
24 CARDINAL
Germany GPE
British NORP
Gibraltar GPE
Pfizer ORG
16th January DATE
33 thousand CARDINAL
2761 CARDINAL
9 CARDINAL
December DATE
almost a hundred CARDINAL
The United Arab Emirates GPE
Chinese NORP
Sinopharm ORG
Pfizer ORG
December DATE
Amer Sharif PERSON
the Covid-19 Command & Control Centre ORG
Dubai GPE
UAE ORG
first ORDINAL
100% PERCENT
10th February DATE
daily DATE
18 CARDINAL
first ORDINAL
last spring DATE
Israel GPE
19th December DATE
New York Times ORG
Alex Berenson PERSON
Israelis NORP
January DATE
Palestine GPE
December DATE
Palestinians NORP
Israeli NORP
Hervé Seligmann PERSON

Aix-Marseilles University ORG
about 40 CARDINAL
the three weeks DATE
first ORDINAL
second ORDINAL
Israel GPE
Pfizer ORG
the first week DATE
Raine PERSON
UK GPE
MHRA ORG
two CARDINAL
first ORDINAL
The Public Health England ORG
Matt Hancock PERSON
80% PERCENT
48% PERCENT
first ORDINAL
Pfizer ORG
Astra ORG
Zeneca NORP
Mary Ramsay PERSON
PHE ORG
hundreds CARDINAL
British NORP
the Bill & Melinda Gates Foundation LAW
Covid PERSON
Covid PERSON
Mike Pence PERSON
Philadelphia GPE
Penn State ORG
Craig Meyers PERSON
NewsNation ORG
WTAJ ORG
the Journal of Medical Virology ORG
the Penn State College of Medicine ORG
Listerene PERSON
at least 30 seconds TIME
Biden PERSON
Friends Busted Partying and Singing Without Masks or Social Distancing
ORG
Ireland GPE
one CARDINAL
two CARDINAL
Alaska GPE
Permafrost Is Thawing WORK_OF_ART
Nasa ORG
ICE Detainer Issued for Suspected Wine Country Arsonist ORG
Sonoma Jail GPE
Colorado Rockies Baseball Team ORG

Erie GPE
To Throwing Away 'Over A Hundred' Pro-Trump Ballots On Instagram
WORK_OF_ART
Son PERSON
Daughter PERSON
Exclusive: The TCF Center Election Fraud – Newly Discovered Video
Shows Late Night Deliveries WORK_OF_ART
Tens of Thousands CARDINAL
8 Hours TIME
Gingrich Tragedy - PERSON
Obama PERSON
November 14, 2014 DATE
Olympics EVENT
Rio Games ORG
Coronavirus Contains HIV Insertions ORG
Global Ocean Circulation ORG
Rick Perry PERSON
111 CARDINAL
NHS ORG
N.J. GPE
500 MONEY
Supreme Court ORG
Eugenie PERSON
ninth ORDINAL
Killers ORG
Sentencing Council ORG
2040 DATE
Democrat NORP
Anti-Trump Postal Workers ORG
Garbage ORG
Pfizer PERSON
CLARKSBURG ORG
Jared Henry ORG
Maddie Mansell PERSON
Buckhannon Pike PERSON
Nutter Fort GPE
Mansell PERSON
Henry PERSON
Mansell PERSON
Mansell PERSON
Nikki Bowmar PERSON
the U.S. Small Business Administration ORG
Bowmar PERSON
approximately 114,391 CARDINAL
West Virginia GPE
99 percent PERCENT
280,213 CARDINAL
nearly 50 percent PERCENT
Bowmar PERSON
Mansell PERSON

first ORDINAL
Christ GPE
George "Gib" Brown PERSON
The James and Law Co. ORG
West Virginia GPE
nearly 30 CARDINAL
Clarksburg GPE
two CARDINAL
1903 DATE
Brown PERSON
James and Law ORG
Brown PERSON
the years DATE
Chamber ORG
the Robinson Grand Performing Arts Center ORG
Clarksburg GPE
Clarksburg GPE
years DATE
Brown PERSON
Dan Taylor PERSON
the West Virginia Community Development Hub's Energizing
Entrepreneurial Communities ORG
the last of three years DATE
four CARDINAL
Grafton ORG
Taylor PERSON
Taylor PERSON
Stephen Mann PERSON
Lewis County GPE
December DATE
Weston GPE
Mann ORG
two CARDINAL
one CARDINAL
401k PRODUCT
Mann PERSON
Manns PERSON
Lewis County GPE
Mann PERSON
Lewis County GPE
West Virginia GPE
Bowmar PERSON
Mann ORG
The Energizing Entrepreneurial Communities ORG
Grafton ORG
Taylor PERSON
All Aboard Grafton FAC
Taylor PERSON
Taylor County PERSON
first ORDINAL

February DATE
Patricia Henderson PERSON
the Taylor County Development Authority ORG
the Taylor County Commission ORG
Taylor County GPE
Weston GPE
Fairs and Festivals Committee ORG
Julia Spelsberg PERSON
Spelsberg PERSON
Weston GPE
North Central West Virginia LOC
The Small Business Administration ORG
Bowmar PERSON
USDA ORG
the Tax Cut FAC
Taylor PERSON
Obamacare NORP
Months DATE
the Texas House ORG
Texas Scorecard ORG
Empower Texans NORP
one CARDINAL
First Amendment LAW
January DATE
two CARDINAL
Texas Scorecard ORG
Brandon Waltens PERSON
Destin Sensky PERSON
Legislature ORG
Senate ORG
House ORG
two CARDINAL
House Administration Chair ORG
Charlie Geren PERSON
Fort Worth GPE
Republican NORP
Empower Texans NORP
PAC ORG
January DATE
Texas Scorecard ORG
PAC ORG
Geren PERSON
Geren PERSON
Empower Texans NORP
PAC ORG
Geren PERSON
Dan Patrick PERSON
the Texas Senate ORG
more than \$850,000 MONEY
the last five years DATE

this week DATE
Austin GPE
Geren PERSON
Geren PERSON
two CARDINAL
the Texas House ORG
Wednesday DATE
morning TIME
Geren PERSON
Empower Texans NORP
weekday DATE
weekly DATE
A-F PRODUCT
the Texas House ORG
Waltens PERSON
Sensky PERSON
second ORDINAL
House ORG
Geren PERSON
Empower Texans NORP
2017 DATE
Geren PERSON
Cary Cheshire Waltens PERSON
Sensky ORG
the Texas Senate ORG
the Texas House ORG
Illinois General Assembly ORG
Florida GPE
Bloomberg PERSON
Caruthers California: Video LOC
Vladimir Putin PERSON
Europe LOC
Vigil PERSON
13-year-old DATE
The New York Times ORG
TRUMP ORG
Obama GPE
Reagan PERSON
Same Point ORG
Presidencies FAC
Antifa PERSON
Trump ORG
Scott PERSON
Government ORG
Kirk Douglas Dead PERSON
4 Days DATE
Apocalyptic Sea-Level Rise ORG
15 CARDINAL
Nigerian House of Reps ORG
Coronavirus PERSON

Gossip PERSON
Nigeria GPE
Fox News Wins Pulitzer Prize for Reporting During Crisis – Daily World
ORG
Biden Calls PERSON
Done Meeting PERSON
NIPOST ORG
Osogbo GPE
Biden Motorcade PERSON
Childhood ORG
40% PERCENT
four years DATE
Jay Leno PERSON
Republican NORP
Trump Supporter PERSON
71 DATE
Democrats NORP
\$2.2 Billion MONEY
Social Security ORG
Cuomo's Budget ORG
U.S. GPE
Jeff Merkley PERSON
Oregon GPE
Joe Biden's Dept PERSON
Energy Blocked GPE
Texas GPE
Increasing Power Ahead of Killer Storm ORG
Biden Plans PERSON
Move Social Security Eligibility ORG
75 CARDINAL
1,500 MONEY
Next Week DATE
More Than 10,000 CARDINAL
Cast Ballots PERSON
Michigan GPE
UK GPE
4% PERCENT
Ucas GPE
NIPOST ORG
Osogbo GPE
Tory ORG
75 CARDINAL
the next 16 years DATE
Fani-Kayode PERSON
Abba Kyari's PERSON
Wolf PERSON
Britain GPE
Colorado Rockies Baseball Team ORG
Ariana Grande No Longer ORG
Japanese NORP

Obama PERSON
Cameron PERSON
the United Kingdom GPE
Michigan GPE
Travis Rowley PERSON
Democrats NORP
CO2 CARDINAL
A decade DATE
Scottish National Party ORG
Feds Handcuff 'Irrational' House PERSON
Raiding Her Office ORG
San Diego GPE
Democrat NORP
Peters PERSON
Trump ORG
Mexico GPE
MSF ORG
18 CARDINAL
first ORDINAL
BOMBSHELL ORG
440% PERCENT
the coming flu season DATE
Sarah Parker PERSON
Supreme Court ORG
DeSantis Tells PERSON
Go Fuck Yourself" WORK_OF_ART
CDC Inflated COVID Numbers ORG
Russia GPE
Trump ORG
2020 DATE
FG ORG
EU ORG
Kwik PERSON
Launches Kwik Strip Gentlemen's PERSON
2030 DATE
London GPE
Apollo ORG
Alien City GPE
Burnam Statement PERSON
GOP ORG
Vote Rejecting Medicaid Expansion ORG
NHS ORG
US GPE
One Hour TIME
Biden PERSON
Arizona Senate ORG
Releases Evidence PERSON
Democrat Fundraising Machine 'ActBlue Texas ORG
Caught Paying Out Small Sums WORK_OF_ART
Hundreds of Individuals for Unknown Purposes - David Harris Jr ORG

Gohmert Responds PERSON
May 2018 DATE
fourth ORDINAL
the month of May DATE
NOAA ORG
1880 DATE
March-May DATE
fourth ORDINAL
monthly DATE
NOAA ORG
National Centers for Environmental Information ORG
NOAA ORG
May 2018 DATE
May DATE
1.44 CARDINAL
F PRODUCT
the 20th century DATE
58.6 CARDINAL
F PRODUCT
fourth ORDINAL
May DATE
1880-2018 DATE
years 2014-2018 DATE
five CARDINAL
2016 CARDINAL
May DATE
1.58 CARDINAL
May 2018 DATE
the 42nd consecutive May DATE
the 401st consecutive month DATE
the 20th century DATE
North America LOC
Europe LOC
Asia LOC
Atlantic LOC
Pacific LOC
Indian Oceans NORP
May DATE
Canada GPE
Atlantic Ocean LOC
Greenland GPE
May DATE
2.05 CARDINAL
the 20th century DATE
52.0 CARDINAL
F PRODUCT
May DATE
2011 DATE
2013 DATE
seventh ORDINAL

May DATE
139-year DATE
May 2018 DATE
U.S. GPE
Europe LOC
5.4 CARDINAL
Canada GPE
Russia GPE
5.4 CARDINAL
Europe LOC
May DATE
continental ORG
1910 DATE
4.97 CARDINAL
2003 DATE
1.66 CARDINAL
F PRODUCT
May 2018 DATE
first ORDINAL
May DATE
3.6 CARDINAL
F PRODUCT
2.0 CARDINAL
European NORP
May DATE
Asia LOC
May DATE
2009 DATE
May DATE
1.19 CARDINAL
the 20th century DATE
monthly DATE
61.3 CARDINAL
fourth ORDINAL
May DATE
years 2014-2018 DATE
five CARDINAL
2016 CARDINAL
May DATE
1.39 CARDINAL
May 2018 DATE
May DATE
Arctic LOC
second ORDINAL
40-year DATE
420,000 square miles QUANTITY
8.1 percent PERCENT
1981-2010 DATE
the National Snow and Ice Data Center(link ORG
NOAA ORG

NASA ORG
May Arctic LOC
2016 DATE
Arctic LOC
Bering GPE
Chukchi Seas PERSON
May DATE
330,000 square miles QUANTITY
8.6 percent PERCENT
1981-2010 DATE
third ORDINAL
May DATE
Antarctic sea LOC
May DATE
the Weddell Sea LOC
Seasonal DATE
March-May 2018 DATE
March-May DATE
1.48 CARDINAL
the 20th century DATE
56.7 CARDINAL
F PRODUCT
fourth ORDINAL
March-May DATE
1880-2018 DATE
0.45 CARDINAL
F cooler PRODUCT
2016 DATE
March-May DATE
2014 DATE
three-month DATE
Europe LOC
the Middle East LOC
Africa LOC
China GPE
Mongolia GPE
South America LOC
Atlantic LOC
Indian NORP
Pacific Oceans NORP
March-May 2018 DATE
March-May DATE
2.34 CARDINAL
the 20th century DATE
46.4 CARDINAL
F PRODUCT
fifth ORDINAL
March-May DATE
139-year DATE
Five CARDINAL

March-May 2018 DATE
nine CARDINAL
continental ORG
1910 DATE
Europe LOC
South America LOC
third ORDINAL
March-May DATE
March-May DATE
1.15 CARDINAL
the 20th century DATE
61.0 CARDINAL
F PRODUCT
fourth ORDINAL
March-May DATE
Year-to-Date DATE
January-May 2018 DATE
1.39 CARDINAL
the 20th century DATE
55.5 CARDINAL
F PRODUCT
2010 DATE
fourth ORDINAL
January-May DATE
139-year DATE
2018 year DATE
0.59 CARDINAL
2016 DATE
2.18 CARDINAL
the 20th century DATE
42.8 CARDINAL
F PRODUCT
2002 DATE
fifth ORDINAL
January-May DATE
1.08 CARDINAL
the 20th century DATE
60.8 CARDINAL
fifth ORDINAL
January-May DATE
1880-2018 DATE
Democrats NORP
Americans NORP
9 CARDINAL
Capitol Shooting Exposed ORG
Hollywood GPE
Up to a third CARDINAL
Iran GPE
Erbil ORG
Iraq GPE

Pittsburg Area Antifa LOC
Tweets Warning PERSON
Trump WORK_OF_ART
Sunday DATE
noon TIME
Joe Biden PERSON
Government ORG
Erie GPE
To Throwing Away 'Over A Hundred' Pro-Trump Ballots On Instagram
WORK_OF_ART
2017 DATE
Paid Liberal Trolls of America ORG
6 hours TIME
30 MONEY
40 MONEY
70 cents MONEY
1 MONEY
Soros PERSON
Joe Barron PERSON
George Soros PERSON
500 MONEY
Art Tubolls PERSON
163 CARDINAL
Soros PERSON
Deluth GPE
Charlie Kirk PERSON
Turning Point PERSON
The Fonz" Winkler, Dies At Age 74 After Secret Battle With Guillain-
Barré Syndrome GBS WORK_OF_ART
CDC ORG
the American Academy of Pediatrics ORG
Andrew Zimmerman PERSON
Kennedy Krieger Institute ORG
Johns Hopkins University ORG
third ORDINAL
years DATE
Zimmerman PERSON
Zimmerman PERSON
more than five thousand CARDINAL
2009 DATE
the late 1990s DATE
the Kennedy Krieger Institute ORG
Baltimore GPE
Zimmerman PERSON
Jon Poling PERSON
2000 DATE
nineteen-month-old DATE
Hannah PERSON
Hannah PERSON
Zimmerman PERSON

Richard Kelley PERSON
Kennedy Krieger's PERSON
Kennedy Krieger PERSON
Hannah PERSON
Georgetown GPE
MD GPE
Teri PERSON
Hannah PERSON
the next few years DATE
Zimmerman PERSON
2008 DATE
Hannah Poling PERSON
Zimmerman PERSON
Zimmerman PERSON
Zimmerman PERSON
Hannah PERSON
CDC ORG
the Department of Justice ORG
twenty-million-dollar MONEY
Polings FAC
2010 DATE
Hannah PERSON
Hannah Poling PERSON
Zimmerman PERSON
Kelley PERSON
the Department of Justice ORG
Drs PERSON
Zimmerman PERSON
Kelley PERSON
first ORDINAL
more than thirty years DATE
Tennessee GPE
Yates Hazlehurst PERSON
one CARDINAL
three CARDINAL
2009 DATE
only a year DATE
Poling ORG
Zimmerman.3 Drs PERSON
Zimmerman PERSON
Kelley PERSON
Hazlehurst NORP
Yates GPE
2009 DATE
the Omnibus Autism Proceeding ORG
Zimmerman PERSON
more than five thousand CARDINAL
2017 DATE
Drs PERSON
Kelley PERSON

Zimmerman PERSON
Yates GPE
The "Vaccine Court ORG
the National Childhood Vaccine Injury Act ORG
1986 DATE
the United States Court of Federal Claims ORG
American NORP
the Department of Health and Human Services ORG
HHS ORG
Department of Justice ORG
1989 DATE
more than \$3.8 billion MONEY
Americans NORP
1998 DATE
twelve hundred CARDINAL
eighteen thousand CARDINAL
DTP ORG
MMR ORG
second ORDINAL
approximately 34 percent PERCENT
2017 DATE
just over \$282 million MONEY
Rolf Hazlehurst PERSON
Tennessee GPE
Yates PERSON
the US Congress ORG
2013 DATE
Rolf Hazlehurst ORG
Vaccine PERSON
Discovery PRODUCT
American NORP
ENCYCLICAL LETTER LAUDATO SI' OF THE HOLY FATHER FRANCIS ON CARE FOR
OUR COMMON HOME ORG
Will Austin PERSON
\$1 Million MONEY
GEORGIA GPE
95-Degree Days DATE
NHS ORG
30% PERCENT
Paul Bettencourt PERSON
BRAZIL GPE
AstraZeneca ORG
Oxford University ORG
Anvisa ORG
one CARDINAL
three CARDINAL
Brazil GPE
Oxford University ORG
the UK Government ORG
100 million CARDINAL

US GPE
September 6 DATE
India GPE
South Africa GPE
AstraZeneca ORG
Europe LOC
Inclusive Vaccine Alliance ORG
400 million CARDINAL
European NORP
UK GPE
30 million CARDINAL
BioNtech/Pfizer ORG
60 million CARDINAL
Valneva - in PERSON
six CARDINAL
UK GPE
Patrick Vallance PERSON
next spring DATE
the Commons and Lords National Security Strategy Committee ORG
AstraZeneca ORG
the turn of the year DATE
UK GPE
Vaccine Taskforce FAC
Kate Bingham PERSON
UK GPE
four CARDINAL
six CARDINAL
three CARDINAL
one CARDINAL
two CARDINAL
Covid PERSON
26,688 CARDINAL
UK GPE
789,229 CARDINAL
191 CARDINAL
today DATE
Earth LOC
Antifa PERSON
Trump ORG
this week DATE
Scottish National Party ORG
Democrats NORP
Americans NORP
More Than 40% PERCENT
U.S. GPE
Australia GPE
Great Barrier Reef WORK_OF_ART
at least 40,000 CARDINAL
UK GPE
Earth LOC

400th FAC
NHS ORG
1bn ORDINAL
Brexit PERSON
Britons GPE
EU ORG
Trump ORG
Lin Wood Puts PERSON
Gov Brian Kemp PERSON
JUSTICE ORG
EU ORG
Arctic LOC
first ORDINAL
Two CARDINAL
Georgia GPE
\$2.2 Billion MONEY
Social Security ORG
Cuomo's Budget ORG
Democrats NORP
Bill To 'Euthanize Seniors' PERSON
Childhood ORG
40% PERCENT
four years DATE
Olympics EVENT
Rio Games ORG
Obama's Daughters Caught ORG
Atlanta GPE
JOINS ORG
GEORGIA GPE
NEVADA GPE
TRUMP GPE
Robert F. Kennedy Jr PERSON
Facebook Fact Checkers ORG
four million CARDINAL
a year DATE
Barack Obama PERSON
2000 years DATE
the Medieval Warm Period FAC
Little Ice Age LOC
JoNova ORG
Obama PERSON
Cameron PERSON
the United Kingdom GPE
WHO ORG
Vladimir Putin PERSON
Europe LOC
Up to 90% PERCENT
Covid PERSON
CDC ORG
1600% PERCENT

Josh Mandel PERSON
USCIS ORG
2017 DATE
Arctic LOC
Winter Sea Ice Drops LOC
UK GPE
Oregon GPE
Hundreds CARDINAL
Republican NORP
GOP Voters ORG
Candace Owens PERSON
Arctic LOC
first ORDINAL
Trump ORG
Statue PERSON
Trump ORG
Vladimir Putin PERSON
FDA Shocking Study: Cells Used ORG
ENCYCLICAL LETTER LAUDATO SI' OF THE HOLY FATHER FRANCIS ON CARE FOR
OUR COMMON HOME ORG
CDC ORG
COVID-19 ORG
U.S. GPE
CDC ORG
between March and December 2020 DATE
1.5 percent PERCENT
two months DATE
0.5 percent PERCENT
the first 20 days DATE
less than 2 percent PERCENT
100 days DATE
CDC ORG
11-year-olds ORDINAL
200,000 MONEY
America GPE
Zamfara PERSON
Charlie Crist PERSON
Nan Rich ORG
Washington State GPE
2014 DATE
Breaks Heat Record EVENT
June DATE
Earth LOC
European NORP
British NORP
100 years ago DATE
Miami GPE
Caruthers California: Video LOC
One CARDINAL
Tilapia ORG

Tilapia ORG
Wake Forest University School of Medicine ORG
Tilapia PERSON
Tilapia ORG
Tilapia ORG
one CARDINAL
Tilapia PERSON
Tilapia ORG
Tilapia PERSON
Tilapia PERSON
Tilapia GPE
China GPE
October DATE
the White House Arresting Congress FAC
Bible WORK_OF_ART
Buy Isa ORG
500,000 CARDINAL
first ORDINAL
CDC ORG
COVID-19 ORG
U.S. GPE
CDC ORG
between March and December 2020 DATE
1.5 percent PERCENT
two months DATE
0.5 percent PERCENT
the first 20 days DATE
less than 2 percent PERCENT
100 days DATE
CDC ORG
Kwik PERSON
Launches Kwik Strip Gentlemen's PERSON
first ORDINAL
This Labor Day DATE
Rand Paul PERSON
Scott Walker PERSON
\$100 million MONEY
US GPE
ISIS ORG
Syrian NORP
Arctic LOC
Antarctic LOC
25 years DATE
the U.S. Centers for Disease Control and Prevention ORG
CDC ORG
the Vaccine Adverse Event Reporting System ORG
more than 10 years DATE
at least 108 CARDINAL
today DATE
today DATE

first ORDINAL
U.S. GPE
2003 DATE
the Associate Press ORG
Anne Schuchat PERSON
CDC ORG
National Center for Immunization and Respiratory Diseases ORG
VAERS ORG
at least 108 CARDINAL
2003 DATE
96 CARDINAL
MMR ORG
first ORDINAL
1963 DATE
U.S. GPE
the years DATE
first ORDINAL
1963 DATE
the United States GPE
approximately 98% PERCENT
the International Medical Council on Vaccination ORG
first ORDINAL
IMCV PERSON
One CARDINAL
COVID-19 ORG
COVID ORG
November 20th DATE
almost 10 million CARDINAL
China GPE
300 CARDINAL
Coronavirus GPE
1,174 CARDINAL
ZERO CARDINAL
zero CARDINAL
Coronavirus GPE
10,000,000 CARDINAL
Wuhan GPE
between January 23 and April 8, 2020 DATE
May 14 and June 1, 2020 DATE
Wuhan GPE
six years DATE
9,899,828 CARDINAL
92.9% PERCENT
300 CARDINAL
0.303/10,000 CARDINAL
95% PERCENT
CI ORG
1,174 CARDINAL
107 CARDINAL
34,424 CARDINAL

COVID-19 PRODUCT
0.31% PERCENT
95% PERCENT
0.423–0.574% PERCENT
Wuhan GPE
five to eight weeks DATE
10 million CARDINAL
first ORDINAL
10 million CARDINAL
World Health Organization ORG
COVID-19 ORG
November DATE
the World Health Organization ORG
COVID-19 ORG
June of 2020 DATE
Maria Van Kerkhove PERSON
the World Health Organization's ORG
Bloomberg Markets ORG
Finance ORG
847 CARDINAL
WHO ORG
June 2020 DATE
Kerkhove PERSON
2020 CARDINAL
COVID-19 ORG
Capitol FAC
Legislature ORG
Australian NORP
Democrats NORP
Trump ORG
McCain ORG
Marijuana PERSON
Michigan GPE
Jon Evans PERSON
Amazon ORG
Tim Ball: PERSON
Will Austin PERSON
2000 years DATE
the Medieval Warm Period FAC
Little Ice Age LOC
JoNova ORG
WADA GPE
Moscow GPE
IOC ORG
Olympics EVENT
Amazon ORG
Greenland GPE
annual DATE
China GPE
Canada GPE

The Ron Paul Institute for Peace and Prosperity : The Coronavirus Hoax
ORG
Brexit Britain PERSON
EU ORG
SURGES ORG
El Niño ORG
2015 DATE
Hillary Caught PERSON
Russian NORP
Syria GPE
2017 DATE
Reuters ORG
2,500 MONEY
Banned From Driving For Smoking ORG
Canada GPE
Conservatives NORP
Ilhan Omar Tells PERSON
Minnesota LOC
Earth LOC
Trump ORG
Statue PERSON
Democrats NORP
Netizens ORG
ngayon ORG
China GPE
Scott Walker PERSON
\$100 million MONEY
Brexit PERSON
Britons GPE
EU ORG
billions CARDINAL
Mueller ORG
Russia GPE
more than \$25 million MONEY
50,000 MONEY
Belgian NORP
Fremault PERSON
Brussels GPE
5 CARDINAL
Celine Fremault PERSON
the Brussels-Capital Region Responsible For Housing, Quality Of Life,
Environment And Energy ORG
5 CARDINAL
Brussels GPE
Fremault PERSON
5 CARDINAL
Belgian NORP
9 CARDINAL
95 mW/ QUANTITY
m2 PERSON

1 mW/m2 QUANTITY
thousands CARDINAL
Brussels GPE
EU ORG
one CARDINAL
2 CARDINAL
5 CARDINAL
EU ORG
EU ORG
Celine Fremault PERSON
North America LOC
Celine Fremault PERSON
Brussel GPE
5 CARDINAL
6 minute TIME
UN ORG
5 CARDINAL
zero CARDINAL
Tom Wheeler PERSON
FCC Chair ORG
5 CARDINAL
5 CARDINAL
5 CARDINAL
5 CARDINAL
US GPE
Hundreds CARDINAL
Martin Pall PERSON
5 CARDINAL
Earth LOC
5 CARDINAL
AI ORG
5 CARDINAL
Brussels GPE
first ORDINAL
5 CARDINAL
dozens CARDINAL
5 CARDINAL
21 CARDINAL
USA GPE
March 13, 2019 DATE
Portland GPE
FCC ORG
EMF Safety Network ORG
WhatIs5G.info ORG
5 CARDINAL
Fox News Wins Pulitzer Prize for Reporting During Crisis – Daily Worl
ORG
N.J. GPE
500 MONEY
Supreme Court ORG

Government ORG
More Than 40% PERCENT
U.S. GPE
EU ORG
Tammy Baldwin PERSON
Wisconsin GPE
Election Year DATE
Buhari To Resign PERSON
May 2023 DATE
Lai Mohammed PERSON
Apollo ORG
Alien City GPE
2015 DATE
The New York Times ORG
Fani-Kayode PERSON
Abba Kyari's PERSON
Burnam Statement PERSON
GOP ORG
Vote Rejecting Medicaid Expansion ORG
Muslim NORP
Canada GPE
at least 13 CARDINAL
COVID-19 ORG
the United States of America GPE
the past few weeks DATE
COVID-19 ORG
COVID-19 ORG
Donald Trump PERSON
Canada GPE
800 CARDINAL
Cannabis PRODUCT
COVID-19 ORG
13 CARDINAL
ACE2 PRODUCT
C. NORP
TMPRSS2 PRODUCT
COVID-19 PERSON
13 CARDINAL
Canada's CARDINAL
Trump ORG
Harvard Medical School ORG
Mandeep Mehra PERSON
more than 96,000 CARDINAL
15,000 CARDINAL
the Washington Post ORG
34 percent PERCENT
137 percent PERCENT
Trump ORG
45 percent PERCENT
411 percent PERCENT

37 percent PERCENT
256 percent PERCENT
37 percent PERCENT
301 percent PERCENT
Donald Trump PERSON
US GPE
COVID-19 ORG
Plaquenil NORP
COVID-19 PERSON
COVID-19 ORG
zero-hours TIME
Britain GPE
Windrush PERSON
SNUBBED ORG
week DATE
Commonwealth ORG
FAKED DATE
Trudeau Bought PERSON
Arctic LOC
Antarctic LOC
Killers ORG
Sentencing Council ORG
Russian NORP
Syria GPE
2017 DATE
Reuters ORG
CO2 CARDINAL
Biden PERSON
Russia GPE
SolarWinds ORG
500 MONEY
Brexit PERSON
Netizens ORG
ngayon ORG
China GPE
Hayes PERSON
German NORP
COVID-19 ORG
30 Days DATE
Pakistani NORP
Meesha Shafi PERSON
3 years DATE
Ali Zafar PERSON
Clean Energy and Pollution Reduction Act ORG
2015 DATE
over 4 million CARDINAL
Erpenbach PERSON
Walker PERSON
Health Insurance Exchanges ORG
75 CARDINAL

MPH ORG
six months DATE
two-year-old DATE
months DATE
COVID ORG
one CARDINAL
about 6-8 weeks CARDINAL
October 23 DATE
MIT ORG
the University of California San Francisco ORG
Decrease in Hospitalizations for COVID-19 WORK_OF_ART
Mask Mandates PERSON
1083 DATE
U.S. GPE
November 4 DATE
months DATE
COVID ORG
one CARDINAL
about 6-8 weeks CARDINAL
October 23 DATE
MIT ORG
the University of California San Francisco ORG
Decrease in Hospitalizations for COVID-19 WORK_OF_ART
Mask Mandates PERSON
1083 DATE
U.S. GPE
November 4 DATE
second ORDINAL
third ORDINAL
Danish NORP
months DATE
Last week DATE
the Naval Medical Research Center ORG
Maryland GPE
Mount Sinai Hospital FAC
New York GPE
the New England Journal of Medicine ORG
U.S. Marine Corps ORG
Parris Island GPE
over 3,000 CARDINAL
two CARDINAL
day 1 DATE
day 14 DATE
2.8% PERCENT
1.7% PERCENT
at least 6 feet QUANTITY
daily DATE
Six CARDINAL
8-hour TIME
Fauci PERSON

Marine NORP
Army ORG
Fort Benning FAC
90% PERCENT
Trump ORG
thousands CARDINAL
Wisconsin GPE
America GPE
Zamfara PERSON
99.96% PERCENT
two CARDINAL
Pfizer ORG
Covid PERSON
Israel GPE
Miles PERSON
COVID-19 ORG
COVID ORG
November 20th DATE
almost 10 million CARDINAL
China GPE
300 CARDINAL
Coronavirus GPE
1,174 CARDINAL
ZERO CARDINAL
zero CARDINAL
Coronavirus GPE
10,000,000 CARDINAL
Wuhan GPE
between January 23 and April 8, 2020 DATE
May 14 and June 1, 2020 DATE
Wuhan GPE
six years DATE
9,899,828 CARDINAL
92.9% PERCENT
300 CARDINAL
0.303/10,000 CARDINAL
95% PERCENT
CI ORG
1,174 CARDINAL
107 CARDINAL
34,424 CARDINAL
COVID-19 PRODUCT
0.31% PERCENT
95% PERCENT
0.423–0.574% PERCENT
Wuhan GPE
five to eight weeks DATE
10 million CARDINAL
first ORDINAL
10 million CARDINAL

World Health Organization ORG
COVID-19 ORG
November DATE
the World Health Organization ORG
COVID-19 ORG
June of 2020 DATE
Maria Van Kerkhove PERSON
the World Health Organization's ORG
Bloomberg Markets ORG
Finance ORG
847 CARDINAL
WHO ORG
June 2020 DATE
Kerkhove PERSON
2020 CARDINAL
COVID-19 ORG
21 Million CARDINAL
China GPE
Coronavirus Outbreak GPE
Olympics EVENT
Team GB PERSON
China GPE
Rio Olympics EVENT
Steven Seagal PERSON
Putin PERSON
Russia GPE
Far East LOC
HPV ORG
Joe Biden Tells PERSON
Joe Biden PERSON
DISGRACEFUL ORG
EU ORG
British NORP
140MILLION MONEY
Antifa Provocateur PERSON
Pope PERSON
80 CARDINAL
Child Trafficking, Fraud – Conservative WORK_OF_ART
at least 40,000 CARDINAL
UK GPE
3,000 MONEY
Canada GPE
Today DATE
Marine Corps ORG
Justine Greening PERSON
Tom Hanks PERSON
65 DATE
Passes Away PERSON
May 2018 DATE
fourth ORDINAL

the month of May DATE
NOAA ORG
1880 DATE
March-May DATE
fourth ORDINAL
monthly DATE
NOAA ORG
National Centers for Environmental Information ORG
NOAA ORG
May 2018 DATE
May DATE
1.44 CARDINAL
F PRODUCT
the 20th century DATE
58.6 CARDINAL
F PRODUCT
fourth ORDINAL
May DATE
1880-2018 DATE
years 2014-2018 DATE
five CARDINAL
2016 CARDINAL
May DATE
1.58 CARDINAL
May 2018 DATE
the 42nd consecutive May DATE
the 401st consecutive month DATE
the 20th century DATE
North America LOC
Europe LOC
Asia LOC
Atlantic LOC
Pacific LOC
Indian Oceans NORP
May DATE
Canada GPE
Atlantic Ocean LOC
Greenland GPE
May DATE
2.05 CARDINAL
the 20th century DATE
52.0 CARDINAL
F PRODUCT
May DATE
2011 DATE
2013 DATE
seventh ORDINAL
May DATE
139-year DATE
May 2018 DATE

U.S. GPE
Europe LOC
5.4 CARDINAL
Canada GPE
Russia GPE
5.4 CARDINAL
Europe LOC
May DATE
continental ORG
1910 DATE
4.97 CARDINAL
2003 DATE
1.66 CARDINAL
F PRODUCT
May 2018 DATE
first ORDINAL
May DATE
3.6 CARDINAL
F PRODUCT
2.0 CARDINAL
European NORP
May DATE
Asia LOC
May DATE
2009 DATE
May DATE
1.19 CARDINAL
the 20th century DATE
monthly DATE
61.3 CARDINAL
fourth ORDINAL
May DATE
years 2014-2018 DATE
five CARDINAL
2016 CARDINAL
May DATE
1.39 CARDINAL
May 2018 DATE
May DATE
Arctic LOC
second ORDINAL
40-year DATE
420,000 square miles QUANTITY
8.1 percent PERCENT
1981-2010 DATE
the National Snow and Ice Data Center(link ORG
NOAA ORG
NASA ORG
May Arctic LOC
2016 DATE

Arctic LOC
Bering GPE
Chukchi Seas PERSON
May DATE
330,000 square miles QUANTITY
8.6 percent PERCENT
1981-2010 DATE
third ORDINAL
May DATE
Antarctic sea LOC
May DATE
the Weddell Sea LOC
Seasonal DATE
March-May 2018 DATE
March-May DATE
1.48 CARDINAL
the 20th century DATE
56.7 CARDINAL
F PRODUCT
fourth ORDINAL
March-May DATE
1880-2018 DATE
0.45 CARDINAL
F cooler PRODUCT
2016 DATE
March-May DATE
2014 DATE
three-month DATE
Europe LOC
the Middle East LOC
Africa LOC
China GPE
Mongolia GPE
South America LOC
Atlantic LOC
Indian NORP
Pacific Oceans NORP
March-May 2018 DATE
March-May DATE
2.34 CARDINAL
the 20th century DATE
46.4 CARDINAL
F PRODUCT
fifth ORDINAL
March-May DATE
139-year DATE
Five CARDINAL
March-May 2018 DATE
nine CARDINAL
continental ORG

1910 DATE
Europe LOC
South America LOC
third ORDINAL
March-May DATE
March-May DATE
1.15 CARDINAL
the 20th century DATE
61.0 CARDINAL
F PRODUCT
fourth ORDINAL
March-May DATE
Year-to-Date DATE
January-May 2018 DATE
1.39 CARDINAL
the 20th century DATE
55.5 CARDINAL
F PRODUCT
2010 DATE
fourth ORDINAL
January-May DATE
139-year DATE
2018 year DATE
0.59 CARDINAL
2016 DATE
2.18 CARDINAL
the 20th century DATE
42.8 CARDINAL
F PRODUCT
2002 DATE
fifth ORDINAL
January-May DATE
1.08 CARDINAL
the 20th century DATE
60.8 CARDINAL
fifth ORDINAL
January-May DATE
1880-2018 DATE
Nigeria GPE
Treasury ORG
EFCC ORG
Theodore Orji PERSON
N521 billion MONEY
Britain GPE
42 MONEY
Penn State ORG
Craig Meyers PERSON
NewsNation ORG
WTAJ ORG
the Journal of Medical Virology ORG

the Penn State College of Medicine ORG
Listerene PERSON
at least 30 seconds TIME
11-year-olds ORDINAL
Oregon GPE
Hundreds CARDINAL
Republican NORP
GOP Voters ORG
Jill Biden PERSON
Shell Corporation That Legally Owns Epstein ORG
the Clinton Foundation ORG
Mike Pence PERSON
Philadelphia GPE
Europe LOC
Spain GPE
France GPE
Germany GPE
Belgium GPE
the Netherlands GPE
Sweden GPE
Sunday DATE
Sweden GPE
100,000 CARDINAL
56.40 CARDINAL
U.K. GPE
69.60 CARDINAL
Spain GPE
60.88 CARDINAL
Italy GPE
58.16 CARDINAL
Sunday DATE
Johns Hopkins University ORG
U.K. GPE
fourth ORDINAL
Spain GPE
Italy GPE
sixth ORDINAL
eighth ORDINAL
Europe LOC
two CARDINAL
Russia GPE
Trump ORG
2020 DATE
Candace Owens PERSON
Nicola Sturgeon's ORG
Britain GPE
today DATE
Trump ORG
Cheyenne GPE
Eugenie PERSON

ninth ORDINAL
the U.S. Centers for Disease Control and Prevention ORG
CDC ORG
the Vaccine Adverse Event Reporting System ORG
more than 10 years DATE
at least 108 CARDINAL
today DATE
today DATE
first ORDINAL
U.S. GPE
2003 DATE
the Associate Press ORG
Anne Schuchat PERSON
CDC ORG
National Center for Immunization and Respiratory Diseases ORG
VAERS ORG
at least 108 CARDINAL
2003 DATE
96 CARDINAL
MMR ORG
first ORDINAL
1963 DATE
U.S. GPE
the years DATE
first ORDINAL
1963 DATE
the United States GPE
approximately 98% PERCENT
the International Medical Council on Vaccination ORG
first ORDINAL
IMCV PERSON
Christian NORP
One Year DATE
Wisconsin Election Commission ORG
Ballots PERSON
BRAZIL GPE
AstraZeneca ORG
Oxford University ORG
Anvisa ORG
one CARDINAL
three CARDINAL
Brazil GPE
Oxford University ORG
the UK Government ORG
100 million CARDINAL
US GPE
September 6 DATE
India GPE
South Africa GPE
AstraZeneca ORG

Europe LOC
Inclusive Vaccine Alliance ORG
400 million CARDINAL
European NORP
UK GPE
30 million CARDINAL
BioNtech/Pfizer ORG
60 million CARDINAL
Valneva - in PERSON
six CARDINAL
UK GPE
Patrick Vallance PERSON
next spring DATE
the Commons and Lords National Security Strategy Committee ORG
AstraZeneca ORG
the turn of the year DATE
UK GPE
Vaccine Taskforce FAC
Kate Bingham PERSON
UK GPE
four CARDINAL
six CARDINAL
three CARDINAL
one CARDINAL
two CARDINAL
Covid PERSON
26,688 CARDINAL
UK GPE
789,229 CARDINAL
191 CARDINAL
today DATE
May 2018 DATE
fourth ORDINAL
the month of May DATE
NOAA ORG
1880 DATE
March-May DATE
fourth ORDINAL
monthly DATE
NOAA ORG
National Centers for Environmental Information ORG
NOAA ORG
May 2018 DATE
May DATE
1.44 CARDINAL
F PRODUCT
the 20th century DATE
58.6 CARDINAL
F PRODUCT
fourth ORDINAL

May DATE
1880-2018 DATE
years 2014-2018 DATE
five CARDINAL
2016 CARDINAL
May DATE
1.58 CARDINAL
May 2018 DATE
the 42nd consecutive May DATE
the 401st consecutive month DATE
the 20th century DATE
North America LOC
Europe LOC
Asia LOC
Atlantic LOC
Pacific LOC
Indian Oceans NORP
May DATE
Canada GPE
Atlantic Ocean LOC
Greenland GPE
May DATE
2.05 CARDINAL
the 20th century DATE
52.0 CARDINAL
F PRODUCT
May DATE
2011 DATE
2013 DATE
seventh ORDINAL
May DATE
139-year DATE
May 2018 DATE
U.S. GPE
Europe LOC
5.4 CARDINAL
Canada GPE
Russia GPE
5.4 CARDINAL
Europe LOC
May DATE
continental ORG
1910 DATE
4.97 CARDINAL
2003 DATE
1.66 CARDINAL
F PRODUCT
May 2018 DATE
first ORDINAL
May DATE

3.6 CARDINAL
F PRODUCT
2.0 CARDINAL
European NORP
May DATE
Asia LOC
May DATE
2009 DATE
May DATE
1.19 CARDINAL
the 20th century DATE
monthly DATE
61.3 CARDINAL
fourth ORDINAL
May DATE
years 2014-2018 DATE
five CARDINAL
2016 CARDINAL
May DATE
1.39 CARDINAL
May 2018 DATE
May DATE
Arctic LOC
second ORDINAL
40-year DATE
420,000 square miles QUANTITY
8.1 percent PERCENT
1981-2010 DATE
the National Snow and Ice Data Center(link ORG
NOAA ORG
NASA ORG
May Arctic LOC
2016 DATE
Arctic LOC
Bering GPE
Chukchi Seas PERSON
May DATE
330,000 square miles QUANTITY
8.6 percent PERCENT
1981-2010 DATE
third ORDINAL
May DATE
Antarctic sea LOC
May DATE
the Weddell Sea LOC
Seasonal DATE
March-May 2018 DATE
March-May DATE
1.48 CARDINAL
the 20th century DATE

56.7 CARDINAL
F PRODUCT
fourth ORDINAL
March-May DATE
1880-2018 DATE
0.45 CARDINAL
F cooler PRODUCT
2016 DATE
March-May DATE
2014 DATE
three-month DATE
Europe LOC
the Middle East LOC
Africa LOC
China GPE
Mongolia GPE
South America LOC
Atlantic LOC
Indian NORP
Pacific Oceans NORP
March-May 2018 DATE
March-May DATE
2.34 CARDINAL
the 20th century DATE
46.4 CARDINAL
F PRODUCT
fifth ORDINAL
March-May DATE
139-year DATE
Five CARDINAL
March-May 2018 DATE
nine CARDINAL
continental ORG
1910 DATE
Europe LOC
South America LOC
third ORDINAL
March-May DATE
March-May DATE
1.15 CARDINAL
the 20th century DATE
61.0 CARDINAL
F PRODUCT
fourth ORDINAL
March-May DATE
Year-to-Date DATE
January-May 2018 DATE
1.39 CARDINAL
the 20th century DATE
55.5 CARDINAL

F PRODUCT
2010 DATE
fourth ORDINAL
January-May DATE
139-year DATE
2018 year DATE
0.59 CARDINAL
2016 DATE
2.18 CARDINAL
the 20th century DATE
42.8 CARDINAL
F PRODUCT
2002 DATE
fifth ORDINAL
January-May DATE
1.08 CARDINAL
the 20th century DATE
60.8 CARDINAL
fifth ORDINAL
January-May DATE
1880-2018 DATE
This Labor Day DATE
Tory PERSON
Pope PERSON
80 CARDINAL
Child Trafficking, Fraud – Conservative WORK_OF_ART
BRAZIL GPE
AstraZeneca ORG
Oxford University ORG
Anvisa ORG
one CARDINAL
three CARDINAL
Brazil GPE
Oxford University ORG
the UK Government ORG
100 million CARDINAL
US GPE
September 6 DATE
India GPE
South Africa GPE
AstraZeneca ORG
Europe LOC
Inclusive Vaccine Alliance ORG
400 million CARDINAL
European NORP
UK GPE
30 million CARDINAL
BioNtech/Pfizer ORG
60 million CARDINAL
Valneva - in PERSON

six CARDINAL
UK GPE
Patrick Vallance PERSON
next spring DATE
the Commons and Lords National Security Strategy Committee ORG
AstraZeneca ORG
the turn of the year DATE
UK GPE
Vaccine Taskforce FAC
Kate Bingham PERSON
UK GPE
four CARDINAL
six CARDINAL
three CARDINAL
one CARDINAL
two CARDINAL
Covid PERSON
26,688 CARDINAL
UK GPE
789,229 CARDINAL
191 CARDINAL
today DATE
Vigil PERSON
13-year-old DATE
Nicola Sturgeon's ORG
The Novel Coronavirus Infecting ORG
China GPE
Army ORG
Yahaya Bello PERSON
Massive International Study Shows Countries ORG
79% PERCENT
Lower Mortality Rate ORG
100,000 CARDINAL
American NORP
2030 DATE
Barack Obama PERSON
Capitol Shooting Exposed ORG
Hollywood GPE
Canadian NORP
Programmable Hydraulic Guillotines WORK_OF_ART
Canada GPE
COVID-19 ORG
Newt Gingrich PERSON
Arctic LOC
Winter Sea Ice Drops LOC
Britain GPE
Windrush PERSON
SNUBBED ORG
week DATE
Commonwealth ORG

Biden Plans PERSON
Move Social Security Eligibility ORG
75 CARDINAL
today DATE
James I about PERSON
four centuries ago DATE
Duane Carr PERSON
the University of Tennessee College of Medicine ORG
Victor Buhler PERSON
St. Joseph Hospital FAC
Kansas City GPE
thousands CARDINAL
Sheldon Sommers PERSON
Pathologist NORP
Lenox Hill Hospital ORG
New York GPE
Brigitte ORG
Youtube PERSON
German NORP
Rich White's PERSON
Smoke Screens PERSON
Jan Zeldenrust PERSON
Dutch NORP
the Government of Holland ORG
1951 – 1984 DATE
1980 DATE
Dutch NORP
these days DATE
Coal ORG
First ORDINAL
emphysema PERSON
4 CARDINAL
5 CARDINAL
4 CARDINAL
8) CARDINAL
first ORDINAL
emphysema PERSON
secondly ORDINAL
emphysema PERSON
Delhi GPE
'Delhi GPE
Delhi GPE
Indian NORP
Delhi GPE
Indian NORP
Delhi GPE
'Delhi GPE
emphysema PERSON
one CARDINAL
BioFlex ORG

firstly ORDINAL
secondly ORDINAL
the University of Arkansas ORG
Villanova University ORG
Marquette University ORG
more than 500 CARDINAL
U.S. GPE
Canadian NORP
Scot Burton PERSON
the Sam M. Walton College of Business ORG
two CARDINAL
Alex Trebek Becomes PERSON
U.S. GPE
24% PERCENT
597 CARDINAL
a single year DATE
China GPE
the World Health Organization ORG
the U.S. National Institutes of Health ORG
more than 2 million CARDINAL
Wuhan GPE
China GPE
the United States GPE
COVID-19 ORG
Fauci PERSON
Coronavirus PERSON
Art Moore PERSON
February 1, 2021 DATE
Tweet Gab Share PERSON
Anthony Fauci PERSON
National Institute of Allergy and Infectious Diseases ORG
Thursday, July 30, 2020 DATE
Washington GPE
D.C. GPE
White House ORG
Tia Dufour PERSON
Feb. 8, 2021: DATE
USA Today ORG
March DATE
April 2020 DATE
Chinese NORP
Fadela Chaib PERSON
The Scripps Research Institute ORG
FactCheck.org ORG
Feb. 7, 2020 DATE
the last 20 years DATE
Timothy Sheahan PERSON
the University of North Carolina ORG
Chapel Hill FAC
96% PERCENT

China GPE
the World Health Organization ORG
the U.S. National Institutes of Health ORG
more than 2 million CARDINAL
Wuhan GPE
China GPE
the United States GPE
Newsweek ORG
April 2020 DATE
NIH ORG
Anthony Fauci PERSON
more than 200 CARDINAL
Obama PERSON
2014 DATE
U.S. GPE
Fauci ORG
2017 DATE
April 2020 DATE
the Wuhan Institute of Virology ORG
China GPE
Fauci's National Institute of Allergy and Infectious Diseases ORG
Steve Hilton PERSON
Fox News ORG
The Next Revolution WORK_OF_ART
a decade ago DATE
Yunnan province GPE
Wuhan GPE
1,000 miles QUANTITY
Hilton PERSON
Sunday DATE
Wuhan GPE
February 2020 DATE
Yunnan GPE
COVID-19 PERSON
Hilton PERSON
NIH ORG
GenBank ORG
only one CARDINAL
COVID-19 ORG
a decade ago DATE
Yunnan GPE
Hilton GPE
Wuhan GPE
Yunnan GPE
GenBank ORG
Yunnan GPE
Wuhan GPE
Hilton PERSON
two CARDINAL
two CARDINAL

COVID-19 PERSON
NAID ORG
a Nov. 30, 2017 DATE
NAID ORG
Hilton PERSON
a decade ago DATE
NAID ORG
Wuhan GPE
first ORDINAL
COVID-19 ORG
the fall of 2019 DATE
USCIS ORG
Trump ORG
24% PERCENT
597 CARDINAL
a single year DATE
Biden PERSON
Russia GPE
SolarWinds ORG
Ohio GPE
163 CARDINAL
George Soros For PERSON
The World Health Organization ORG
months DATE
WHO ORG
WHO ORG
34 CARDINAL
Monday October 5th DATE
Michael Ryan PERSON
WHO ORG
roughly 10% PERCENT
around 35 million CARDINAL
Margaret Harris PERSON
WHO ORG
WHO ORG
Ryan PERSON
roughly 7.8 billion CARDINAL
10% PERCENT
780 million CARDINAL
1,061,539 CARDINAL
0.14% PERCENT
0.14% PERCENT
24 CARDINAL
WHO ORG
3.4% PERCENT
March DATE
Covid PERSON
IFR ORG
0.14% PERCENT
Covid PERSON

Dr Ryan's PERSON
WHO ORG
Covid NORP
US GPE
CDC ORG
The New York Times ORG
Christian NORP
One Year DATE
The Prices Of Food Items Are Coming Down ORG
Garba Shehu PERSON
1bn MONEY
next two years DATE
Europe LOC
Rick Scott PERSON
Democrats NORP
Liberal States GPE
Order Deeming Church An Essential Business ORG
21 Million CARDINAL
China GPE
Coronavirus Outbreak GPE
Alaska GPE
Permafrost Is Thawing WORK_OF_ART
Berger PERSON
NC GPE
12 CARDINAL
Graphs Show Mask Mandates Do Nothing To Stop COVID EVENT
One CARDINAL
five CARDINAL
USCIS ORG
Vladimir Putin PERSON
Europe LOC
Vitamin ORG
Justine Greening PERSON
Hayes PERSON
GEORGIA GPE
Tesco ORG
119 CARDINAL
last year DATE
New Yorkers NORP
Breonna Taylor PERSON
SHE ORG
first ORDINAL
COVID-19 ORG
COVID-19 ORG
RNA ORG
COVID-19 ORG
Moderna GPE
RNA ORG
thirty years ago DATE
5 CARDINAL

two CARDINAL
RNA ORG
Coronavirus LOC
U.S. GPE
Chicago GPE
hundreds of millions MONEY
Americans NORP
the end of the year DATE
Bill Gates PERSON
WHO ORG
years DATE
Gates ORG
7 billion CARDINAL
RNA ORG
Gates ORG
DNA/RNA ORG
Vaccines NORP
two CARDINAL
COVID-19 ORG
a ton QUANTITY
two CARDINAL
RNA ORG
one CARDINAL
RNA ORG
CEPI ORG
RNA ORG
nearly a decade DATE
one CARDINAL
COVID ORG
first ORDINAL
RNA ORG
Moderna GPE
RNA ORG
RNA ORG
RNA ORG
RNA ORG
COVID ORG
first ORDINAL
RNA ORG
first ORDINAL
Bill Gates PERSON
Newt Gingrich PERSON

Cette fonction a pour but d'ajouter le type d'entité de chaque token détecté à coté de chaque entité détectée dans le texte qu'elle prend en entrée, et retourne le texte modifié avec les informations ajoutées sur les entités nommées.

```
def add_entity_name(text):  
    if text is None or pd.isna(text):  
        return ""
```



```

doc = nlp(text)
# Créer une liste pour stocker les nouveaux tokens
nouveaux_tokens = []

# Parcourir les tokens et ajouter des informations selon le type
d'entité
for token in doc:
    if token.ent_type_:
        # Ajouter le nom de l'entité (type d'entité) à côté de
l'entité
        nouveaux_tokens.append(f"{token.text}
({token.ent_type_})")
    else:
        nouveaux_tokens.append(token.text)

# Reconstruire le texte avec les informations ajoutées
nouveau_texte = " ".join(nouveaux_tokens)
return nouveau_texte

```

Application de la fonction précédente à la colonne "title" avec la méthode apply

```

# Assurez-vous que la colonne "title" contient des chaînes de
caractères
dftrain['title'] = dftrain['title'].astype(str)

# Appliquer la fonction à la colonne "title"
dftrain['title'] = dftrain['title'].apply(add_entity_name)

print(dftrain['title'])

```

```

615      JK (ORG) Rowling (ORG) Confirms (ORG) Stance (...
1303      MI (PERSON) Sec (PERSON) of State (ORG) Offici...
1232      What science can tell us about the links betwe...
2022      Sarah (PERSON) Parker (PERSON) leaves legacy o...
287      Current Actual Election Result Update : Presid...
...
1006      Re : Meeting the need for isolation space for ...
1543      Breaking : Breonna (PERSON) Taylor (PERSON) 's...
853      A quote from Politifact : Gates never said tha...
296      Before This Election , Newt (PERSON) Gingrich ...
1325      COVID19 PCR Tests are Scientifically Meaningless
Name: title, Length: 844, dtype: object

```

On scinde les données de la colonne "title" en jeu d'apprentissage et jeu de test

```

X=dftrain['title']
X_train,X_test,y_train,y_test=train_test_split(X,y,test_size =
0.2,random_state=8)
print("X_train is \n",X_train.shape)
print("y_train is \n",y_train.shape)

```

```

print("X_test is \n",X_test.shape)
print("y_test is \n",y_test.shape)

X_train is
(675,)
y_train is
(675,)
X_test is
(169,)
y_test is
(169,)

```

Ici, c'est une étape importante, on va tester différents classifieurs, pour chacun des classifieurs, on va appliquer le prétraitement + Vectorisation Tfidf, et on applique une cross_val_score avec un Kfold de 10 fois, par la suite on stocke dans une liste all_results la moyenne des accuracy + l'écart type et on la trie par ordre décroissant de moyenne d'accuracy et d'écart type. on remarque que les 2 meilleurs sont SVM et RF qu'on va sélectionner pour leur appliquer le GridSearch sur les paramètres des prétraitements + leurs hyperparamètres pour pouvoir choisir le meilleur.

```

np.random.seed(42)  # Set the random seed for NumPy

```

```

score = 'accuracy'
seed = 7
allresults = []
results = []
names = []

```

```

# Liste des modèles à tester

```

```

models = [
    ('MultinomialNB', MultinomialNB()),
    ('LogisticRegression', LogisticRegression(random_state=42))
]

```

```

models.append(('KNN', KNeighborsClassifier()))
models.append(('CART', DecisionTreeClassifier(random_state=42)))
models.append(('RF', RandomForestClassifier(random_state=42)))
models.append(('SVM', SVC(random_state=42)))

```

```

# Création d'un pipeline pour chaque modèle

```

```

pipelines = []
for name,model in models:
    pipeline = Pipeline([
        ('normalize', TextNormalizer()),
        ('tfidf', TfidfVectorizer()),
        (name,model)
    ])

```

```

    ])
    pipelines.append((name, pipeline))
    #pipeline.fit(X_train, y_train)
all_results=[]
scores=[]
for p in pipelines:
    print(p[1])
    # cross validation en 10 fois
    kfold = KFold(n_splits=10, random_state=seed, shuffle=True)

    # print ("Evaluation de ", p)
    start_time = time.time()
    # application de la classification
    cv_results = cross_val_score(p[1], X_train, y_train, cv=kfold,
    scoring=score)
    #print("Pour le classifieur", p[0], "on a un score
de", cv_results.mean(), "et un écart type de", cv_results.std())
    scores.append(cv_results)

    all_results.append((p[0], cv_results.mean(), cv_results.std()))
    end_time = time.time()

print("all resultats", all_results)

all_results = sorted(all_results, key=lambda x: (-x[1], -x[2]))
print("all resultats", all_results)
    # affichage des résultats
#print ('\nLe meilleur resultat : ', max(results))

X_train (675,)
y_train (675,)
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('MultinomialNB', MultinomialNB())])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('LogisticRegression',
LogisticRegression(random_state=42))])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('KNN', KNeighborsClassifier())])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('CART', DecisionTreeClassifier(random_state=42))])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('RF', RandomForestClassifier(random_state=42))])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),

```

```

        ('SVM', SVC(random_state=42))])
all_resultats [('MultinomialNB', 0.7926031606672521,
0.06432746085775896), ('LogisticRegression', 0.7867427568042142,
0.058944632458151805), ('KNN', 0.6712686567164179,
0.054767770623612606), ('CART', 0.7983977172958736,
0.05136480571971499), ('RF', 0.8444907813871817,
0.054290524553410345), ('SVM', 0.8534460052677787,
0.06256935356011088)]
all_resultats [('SVM', 0.8534460052677787, 0.06256935356011088),
('RF', 0.8444907813871817, 0.054290524553410345), ('CART',
0.7983977172958736, 0.05136480571971499), ('MultinomialNB',
0.7926031606672521, 0.06432746085775896), ('LogisticRegression',
0.7867427568042142, 0.058944632458151805), ('KNN', 0.6712686567164179,
0.054767770623612606)]

```

On affiche les boîtes à moustache pour mieux visualiser les résultats

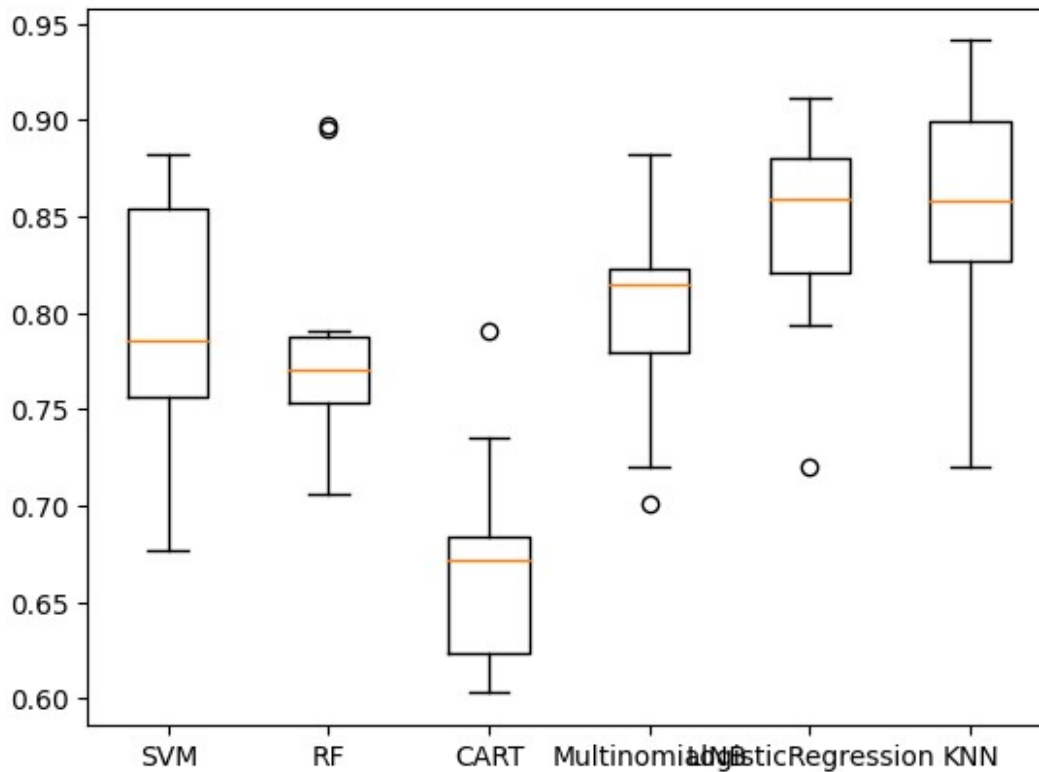
```

import matplotlib.pyplot as plt
fig = plt.figure()
fig.suptitle('Comparaison des algorithmes')
ax = fig.add_subplot(111)
plt.boxplot(scores)
ax.set_xticklabels(name[0] for name in all_results)

[Text(1, 0, 'SVM'),
Text(2, 0, 'RF'),
Text(3, 0, 'CART'),
Text(4, 0, 'MultinomialNB'),
Text(5, 0, 'LogisticRegression'),
Text(6, 0, 'KNN')]

```

Comparaison des algorithmes



On a un pipeline pour chaque prétraitement différent, on essaye pas mal (miniscule, lemmatisation, miniscule + lemmatisation..) et on stocke le fit_transform de nos X_train, X_test sur les pipelines dans des listes qui vont contenir tous les fit_transform des pipelines pour chaque classifieur, par la suite on parcourt ces listes là, on itère dessus, et chaque élément de la liste (train) va passer par le GridSearch et puis on predict sur son correspondant dans liste (test).

```
np.random.seed(42) # Set the random seed for NumPy
# le plus simple est de faire un test sur différents pipelines.
# pipeline de l'utilisation de CountVectorizer sur le texte avec
# différents pre-traitements
CV_brut = Pipeline([('cleaner', TextNormalizer()),
                    ('count_vectorizer',
                     CountVectorizer(lowercase=False))])
CV_lowcase = Pipeline([('cleaner',
                        TextNormalizer(removestopwords=False, lowercase=True,
                                        getstemmer=False, removedigit=False)),
                       ('count_vectorizer',
                        CountVectorizer(lowercase=False))])
CV_lowStop = Pipeline([('cleaner',
                        TextNormalizer(removestopwords=True, lowercase=True,
```

```

getstemmer=False,removedigit=False)),
    ('count_vectorizer',
    CountVectorizer(lowercase=False))])

CV_lowStopstem = Pipeline([('cleaner',
    TextNormalizer(removestopwords=True,lowercase=True,

getstemmer=True,removedigit=False)),
    ('count_vectorizer',
    CountVectorizer(lowercase=False))])

# pipeline de l'utilisation de TfidfVectorizer avec differents pre-
traitements
TFIDF_brut = Pipeline ([('cleaner', TextNormalizer()),
    ('tfidf_vectorizer',
    TfidfVectorizer(lowercase=False))])

TFIDF_lowercase = Pipeline([('cleaner',
    TextNormalizer(removestopwords=False,lowercase=True,

getstemmer=False,removedigit=False)),
    ('tfidf_vectorizer',
    TfidfVectorizer(lowercase=False))])
TFIDF_lowStop = Pipeline([('cleaner',
    TextNormalizer(removestopwords=True,lowercase=True,

getstemmer=False,removedigit=False)),
    ('tfidf_vectorizer',
    TfidfVectorizer(lowercase=False))])

TFIDF_lowStopstem = Pipeline([('cleaner',
    TextNormalizer(removestopwords=True,lowercase=True,

getstemmer=True,removedigit=False)),
    ('tfidf_vectorizer',
    TfidfVectorizer(lowercase=False))])

# Liste de tous les modeles à tester
all_models = [
    ("CV_brut", CV_brut),
    ("CV_lowercase", CV_lowercase),
    ("CV_lowStop", CV_lowStop),
    ("CV_lowStopstem",CV_lowStopstem),
    ("TFIDF_lowercase", TFIDF_lowercase),
    ("TFIDF_lowStop", TFIDF_lowStop),
    ("TFIDF_lowStopstem",TFIDF_lowStopstem),
    ("TFIDF_brut", TFIDF_brut)
]

```

```

X_train_title_SVC = []
X_test_title_SVC = []

X_train_title_RandomForestClassifier = []
X_test_title_RandomForestClassifier = []

for name, pipeline in all_models :

X_train_title_SVC.append(pipeline.fit_transform(X_train).toarray())
    X_test_title_SVC.append(pipeline.transform(X_test).toarray())

X_train_title_RandomForestClassifier.append(pipeline.fit_transform(X_train).toarray())

X_test_title_RandomForestClassifier.append(pipeline.transform(X_test).toarray())


models = {
    'SVC': SVC(random_state=42),
    'RandomForestClassifier': RandomForestClassifier(random_state=42)
}

params = {'SVC': [{'C': [0.001, 0.01, 0.1, 1, 2, 5, 7, 10]},
                  {'gamma': [0.001, 0.01, 0.1, 0.2, 0.3, 0.5, 0.7, 1]},
                  {'kernel': ['linear', 'rbf']}],
          'RandomForestClassifier': [{'n_estimators': [10, 50, 100, 200, 300]},
                                     {'max_features': ['auto', 'sqrt', 'log2']}]}

for model_name, model in models.items():
    score='accuracy'
    X_train_title = eval('X_train_title_' + model_name)
    X_test_title = eval('X_test_title_' + model_name)
    for i in range (len(X_train_title)):
        grid_search = GridSearchCV(model, params[model_name], n_jobs=-1,
        verbose=1, scoring=score)
        print("grid search fait")
        print("X_train",X_train_title[i].shape)
        print("y_train",y_train.shape)
        grid_search.fit(X_train_title[i],y_train)
        print ('meilleur score %0.3f'%(grid_search.best_score_),'\n')

```

```

print ('meilleur estimateur',grid_search.best_estimator_,'\n')
y_pred = grid_search.predict(X_test_title[i])
MyshowAllScores(y_test,y_pred)

print("Ensemble des meilleurs paramètres :")
best_parameters = grid_search.best_estimator_.get_params()
for param_dict in params[model_name]:
    for param_name, param_value in param_dict.items():
        print("\t%s: %r" % (param_name,
best_parameters[param_name]))

y_train (675,)
y_test (169,)
X_test (169,)
grid search fait
X_train (675, 5737)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.828

```

meilleur estimateur SVC(gamma=0.5, random_state=42)

Accuracy : 0.911

Classification Report

	precision	recall	f1-score	support
FALSE	0.85417	0.98795	0.91620	83
TRUE	0.98630	0.83721	0.90566	86
accuracy			0.91124	169
macro avg	0.92023	0.91258	0.91093	169
weighted avg	0.92141	0.91124	0.91084	169

Ensemble des meilleurs paramètres :

```

C: 1.0
gamma: 0.5
kernel: 'rbf'
grid search fait
X_train (675, 4858)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.831

```

meilleur estimateur SVC(gamma=0.5, random_state=42)

Accuracy : 0.911

Classification Report

	precision	recall	f1-score	support
FALSE	0.85417	0.98795	0.91620	83

TRUE	0.98630	0.83721	0.90566	86
accuracy			0.91124	169
macro avg	0.92023	0.91258	0.91093	169
weighted avg	0.92141	0.91124	0.91084	169

Ensemble des meilleurs paramètres :

C: 1.0
gamma: 0.5
kernel: 'rbf'
grid search fait
X_train (675, 4740)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.828

meilleur estimateur SVC(gamma=0.5, random_state=42)

Accuracy : 0.935

Classification Report

	precision	recall	f1-score	support
FALSE	0.90909	0.96386	0.93567	83
TRUE	0.96296	0.90698	0.93413	86
accuracy			0.93491	169
macro avg	0.93603	0.93542	0.93490	169
weighted avg	0.93651	0.93491	0.93489	169

Ensemble des meilleurs paramètres :

C: 1.0
gamma: 0.5
kernel: 'rbf'
grid search fait
X_train (675, 3619)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.828

meilleur estimateur SVC(gamma=0.5, random_state=42)

Accuracy : 0.923

Classification Report

	precision	recall	f1-score	support
FALSE	0.88889	0.96386	0.92486	83
TRUE	0.96203	0.88372	0.92121	86
accuracy			0.92308	169

macro avg	0.92546	0.92379	0.92303	169
weighted avg	0.92611	0.92308	0.92300	169

Ensemble des meilleurs paramètres :

C: 1.0

gamma: 0.5

kernel: 'rbf'

grid search fait

X_train (675, 4858)

y_train (675,)

Fitting 5 folds for each of 18 candidates, totalling 90 fits

meilleur score 0.831

meilleur estimateur SVC(C=2, random_state=42)

Accuracy : 0.893

Classification Report

	precision	recall	f1-score	support
FALSE	0.88235	0.90361	0.89286	83
TRUE	0.90476	0.88372	0.89412	86
accuracy			0.89349	169
macro avg	0.89356	0.89367	0.89349	169
weighted avg	0.89376	0.89349	0.89350	169

Ensemble des meilleurs paramètres :

C: 2

gamma: 'scale'

kernel: 'rbf'

grid search fait

X_train (675, 4740)

y_train (675,)

Fitting 5 folds for each of 18 candidates, totalling 90 fits

meilleur score 0.822

meilleur estimateur SVC(C=1, random_state=42)

Accuracy : 0.858

Classification Report

	precision	recall	f1-score	support
FALSE	0.86420	0.84337	0.85366	83
TRUE	0.85227	0.87209	0.86207	86
accuracy			0.85799	169
macro avg	0.85824	0.85773	0.85786	169
weighted avg	0.85813	0.85799	0.85794	169

Ensemble des meilleurs paramètres :

C: 1
gamma: 'scale'
kernel: 'rbf'
grid search fait
X_train (675, 3619)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.813

meilleur estimateur SVC(C=2, random_state=42)

Accuracy : 0.876

Classification Report

	precision	recall	f1-score	support
FALSE	0.87805	0.86747	0.87273	83
TRUE	0.87356	0.88372	0.87861	86
accuracy			0.87574	169
macro avg	0.87581	0.87560	0.87567	169
weighted avg	0.87577	0.87574	0.87572	169

Ensemble des meilleurs paramètres :

C: 2
gamma: 'scale'
kernel: 'rbf'
grid search fait
X_train (675, 5737)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.831

meilleur estimateur SVC(C=2, random_state=42)

Accuracy : 0.876

Classification Report

	precision	recall	f1-score	support
FALSE	0.87805	0.86747	0.87273	83
TRUE	0.87356	0.88372	0.87861	86
accuracy			0.87574	169
macro avg	0.87581	0.87560	0.87567	169
weighted avg	0.87577	0.87574	0.87572	169

Ensemble des meilleurs paramètres :

C: 2
gamma: 'scale'

```
kernel: 'rbf'
grid search fait
X_train (675, 5737)
y_train (675,)
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.813
```

```
meilleur estimateur RandomForestClassifier(n_estimators=200,
random_state=42)
```

Accuracy : 0.905

Classification Report

	precision	recall	f1-score	support
FALSE	0.90361	0.90361	0.90361	83
TRUE	0.90698	0.90698	0.90698	86
accuracy			0.90533	169
macro avg	0.90530	0.90530	0.90530	169
weighted avg	0.90533	0.90533	0.90533	169

Ensemble des meilleurs paramètres :

```
n_estimators: 200
max_features: 'sqrt'
grid search fait
X_train (675, 4858)
y_train (675,)
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.803
```

```
meilleur estimateur RandomForestClassifier(n_estimators=10,
random_state=42)
```

Accuracy : 0.888

Classification Report

	precision	recall	f1-score	support
FALSE	0.90000	0.86747	0.88344	83
TRUE	0.87640	0.90698	0.89143	86
accuracy			0.88757	169
macro avg	0.88820	0.88722	0.88743	169
weighted avg	0.88799	0.88757	0.88750	169

Ensemble des meilleurs paramètres :

```
n_estimators: 10
max_features: 'sqrt'
grid search fait
X_train (675, 4740)
```

```
y_train (675,)
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.812
```

```
meilleur estimateur RandomForestClassifier(n_estimators=50,
random_state=42)
```

Accuracy : 0.852

Classification Report

	precision	recall	f1-score	support
FALSE	0.86250	0.83133	0.84663	83
TRUE	0.84270	0.87209	0.85714	86
accuracy			0.85207	169
macro avg	0.85260	0.85171	0.85188	169
weighted avg	0.85242	0.85207	0.85198	169

Ensemble des meilleurs paramètres :

n_estimators: 50

max_features: 'sqrt'

grid search fait

X_train (675, 3619)

y_train (675,)

```
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.801
```

```
meilleur estimateur RandomForestClassifier(n_estimators=50,
random_state=42)
```

Accuracy : 0.846

Classification Report

	precision	recall	f1-score	support
FALSE	0.87013	0.80723	0.83750	83
TRUE	0.82609	0.88372	0.85393	86
accuracy			0.84615	169
macro avg	0.84811	0.84547	0.84572	169
weighted avg	0.84772	0.84615	0.84586	169

Ensemble des meilleurs paramètres :

n_estimators: 50

max_features: 'sqrt'

grid search fait

X_train (675, 4858)

y_train (675,)

```
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.819
```

meilleur estimateur RandomForestClassifier(random_state=42)

Accuracy : 0.876

Classification Report

	precision	recall	f1-score	support
FALSE	0.87805	0.86747	0.87273	83
TRUE	0.87356	0.88372	0.87861	86
accuracy			0.87574	169
macro avg	0.87581	0.87560	0.87567	169
weighted avg	0.87577	0.87574	0.87572	169

Ensemble des meilleurs paramètres :

n_estimators: 100

max_features: 'sqrt'

grid search fait

X_train (675, 4740)

y_train (675,)

Fitting 5 folds for each of 8 candidates, totalling 40 fits

meilleur score 0.818

meilleur estimateur RandomForestClassifier(n_estimators=300,
random_state=42)

Accuracy : 0.864

Classification Report

	precision	recall	f1-score	support
FALSE	0.85714	0.86747	0.86228	83
TRUE	0.87059	0.86047	0.86550	86
accuracy			0.86391	169
macro avg	0.86387	0.86397	0.86389	169
weighted avg	0.86398	0.86391	0.86391	169

Ensemble des meilleurs paramètres :

n_estimators: 300

max_features: 'sqrt'

grid search fait

X_train (675, 3619)

y_train (675,)

Fitting 5 folds for each of 8 candidates, totalling 40 fits

meilleur score 0.813

meilleur estimateur RandomForestClassifier(n_estimators=300,
random_state=42)

Accuracy : 0.852

Classification Report

	precision	recall	f1-score	support
FALSE	0.85366	0.84337	0.84848	83
TRUE	0.85057	0.86047	0.85549	86
accuracy			0.85207	169
macro avg	0.85212	0.85192	0.85199	169
weighted avg	0.85209	0.85207	0.85205	169

Ensemble des meilleurs paramètres :

n_estimators: 300

max_features: 'sqrt'

grid search fait

X_train (675, 5737)

y_train (675,)

Fitting 5 folds for each of 8 candidates, totalling 40 fits

meilleur score 0.812

meilleur estimateur RandomForestClassifier(n_estimators=300,
random_state=42)

Accuracy : 0.899

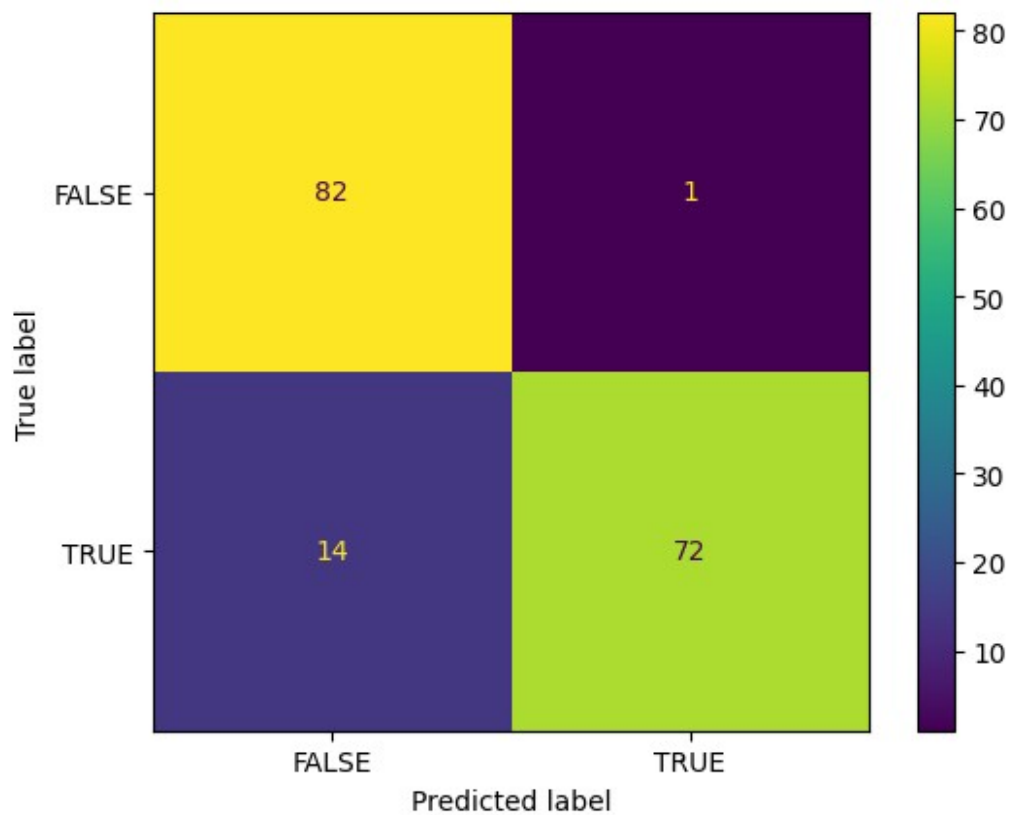
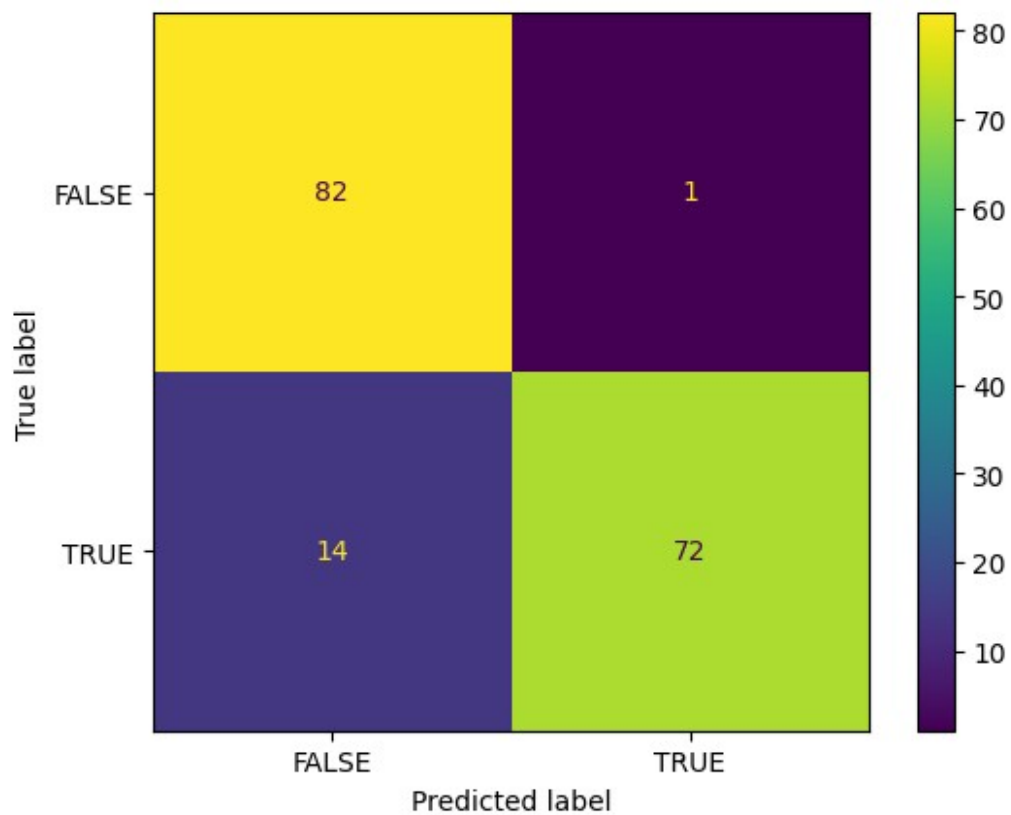
Classification Report

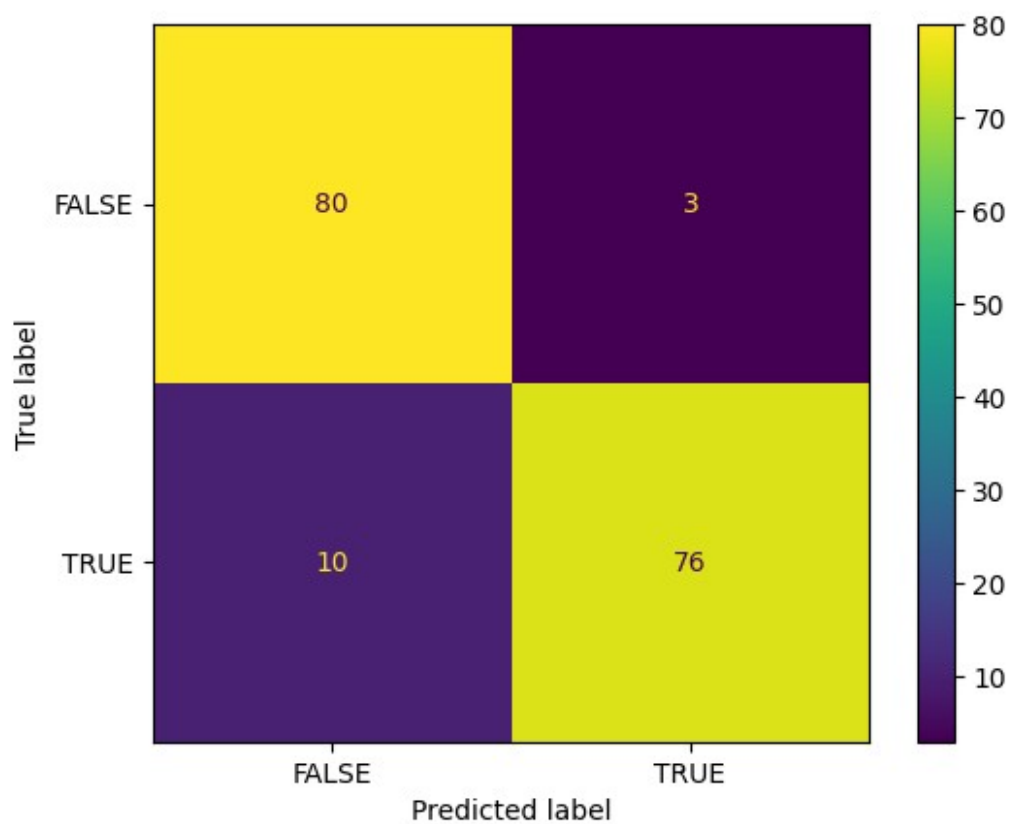
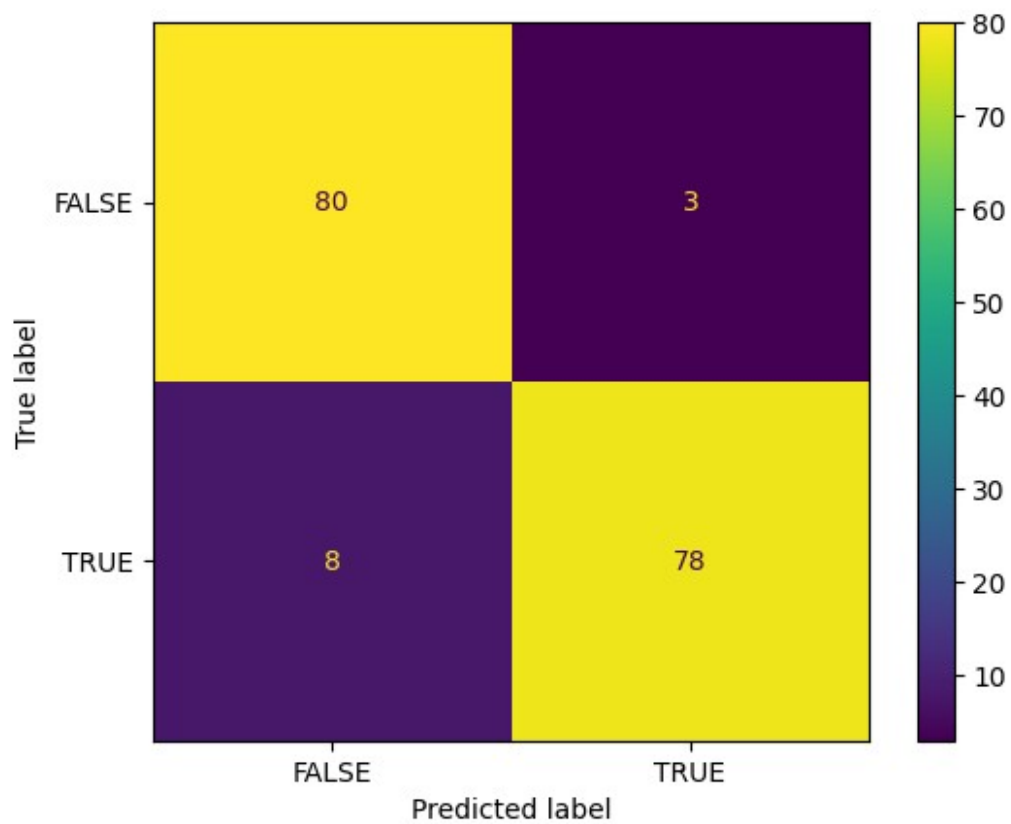
	precision	recall	f1-score	support
FALSE	0.90244	0.89157	0.89697	83
TRUE	0.89655	0.90698	0.90173	86
accuracy			0.89941	169
macro avg	0.89950	0.89927	0.89935	169
weighted avg	0.89944	0.89941	0.89939	169

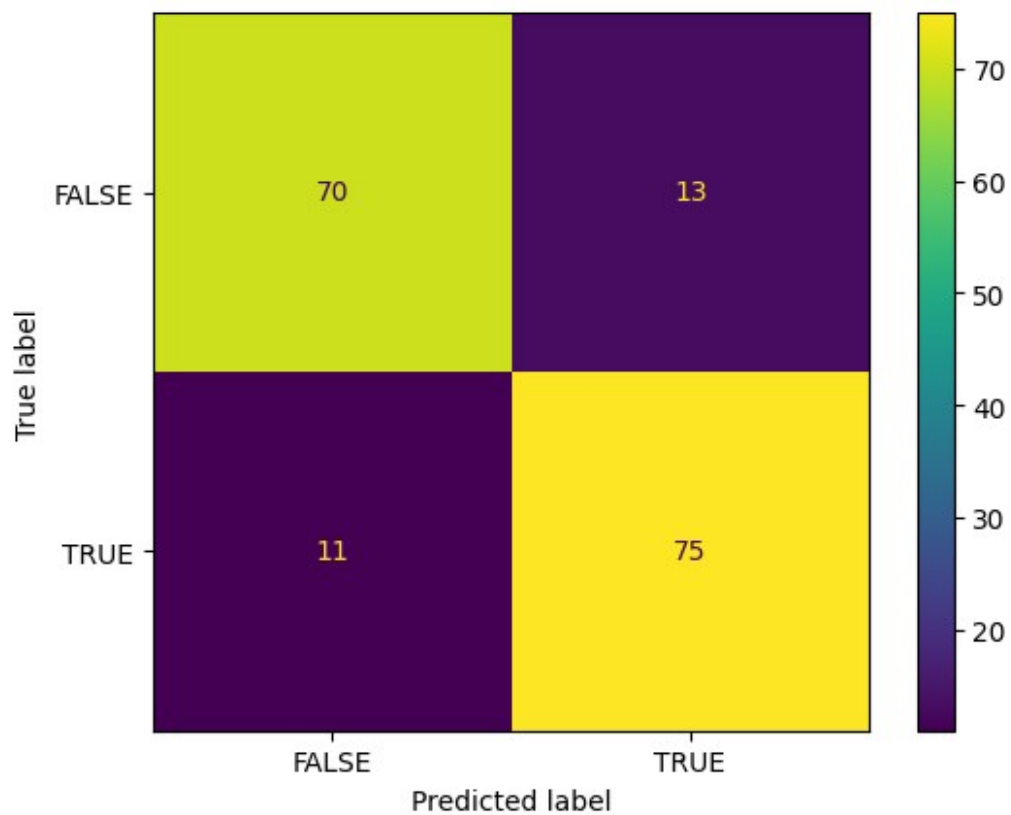
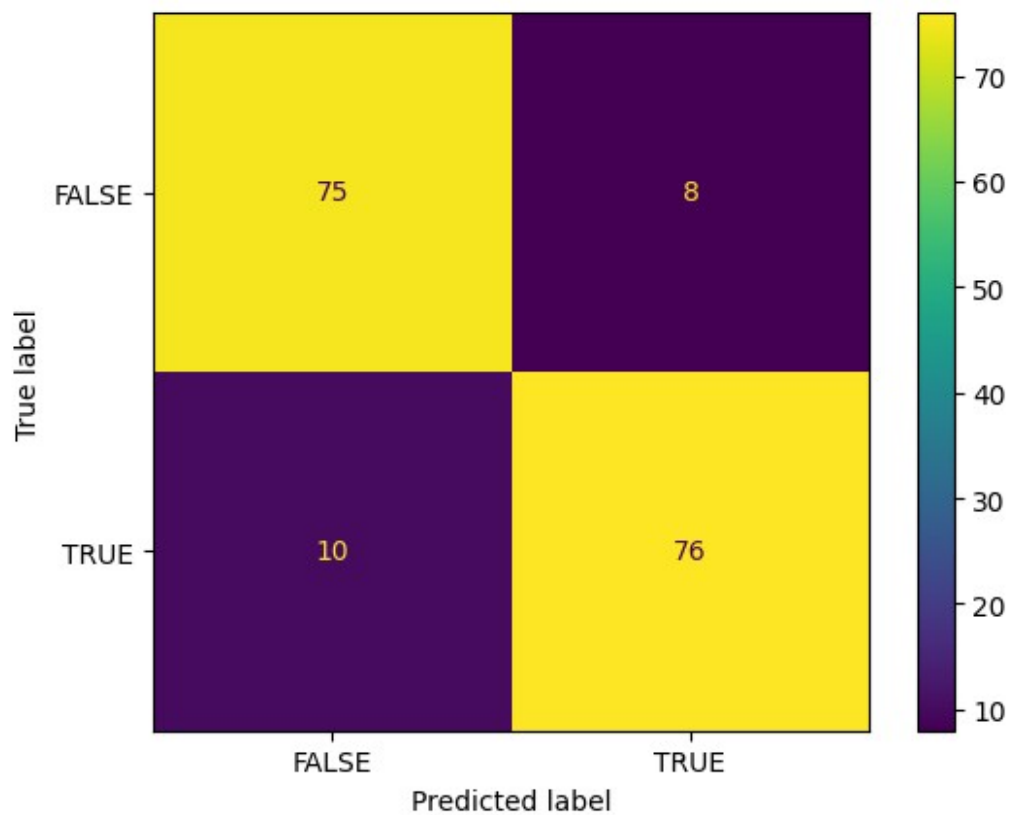
Ensemble des meilleurs paramètres :

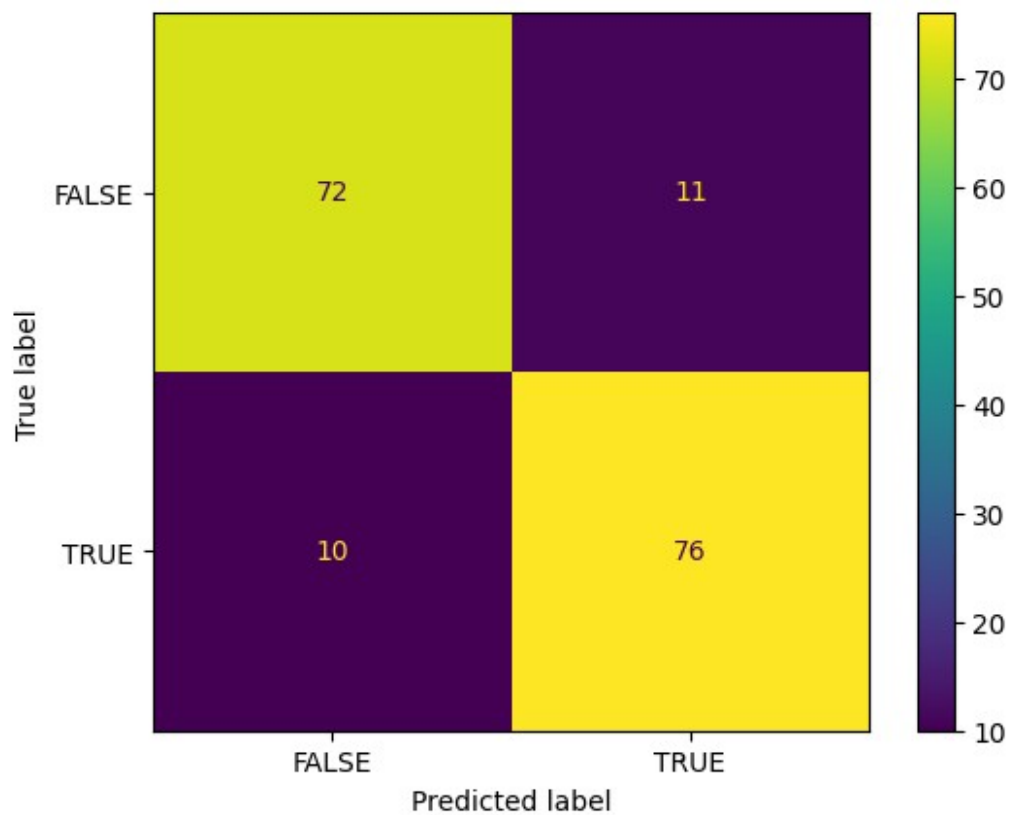
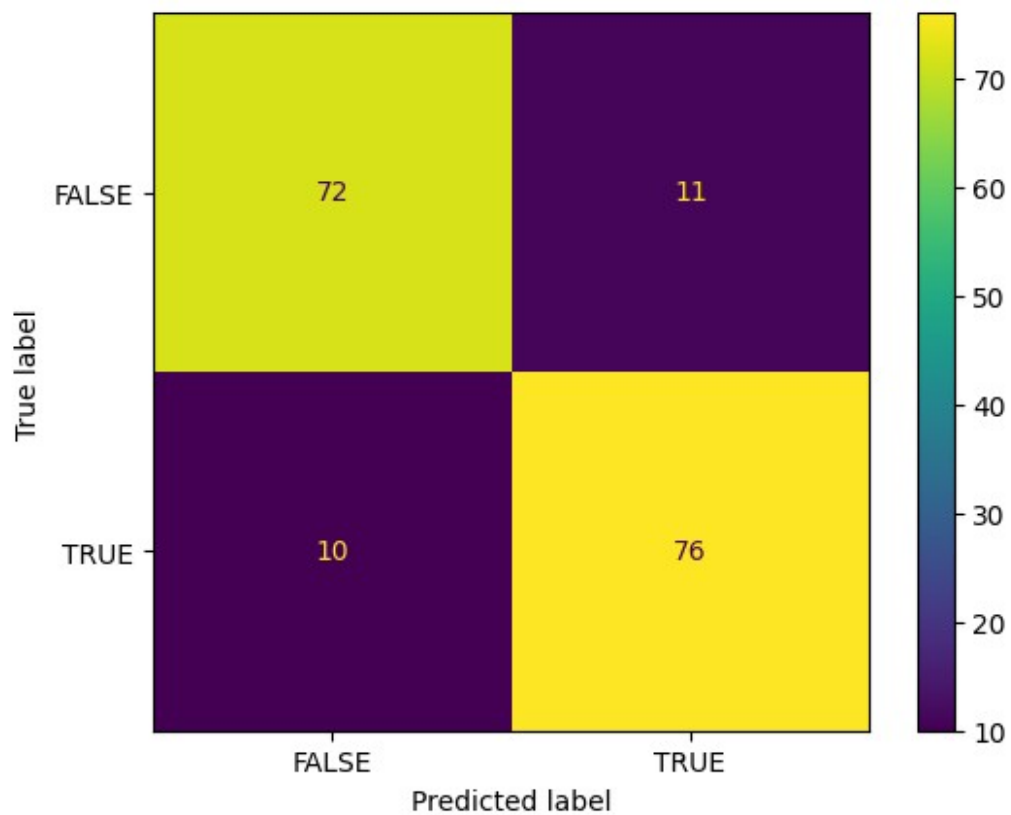
n_estimators: 300

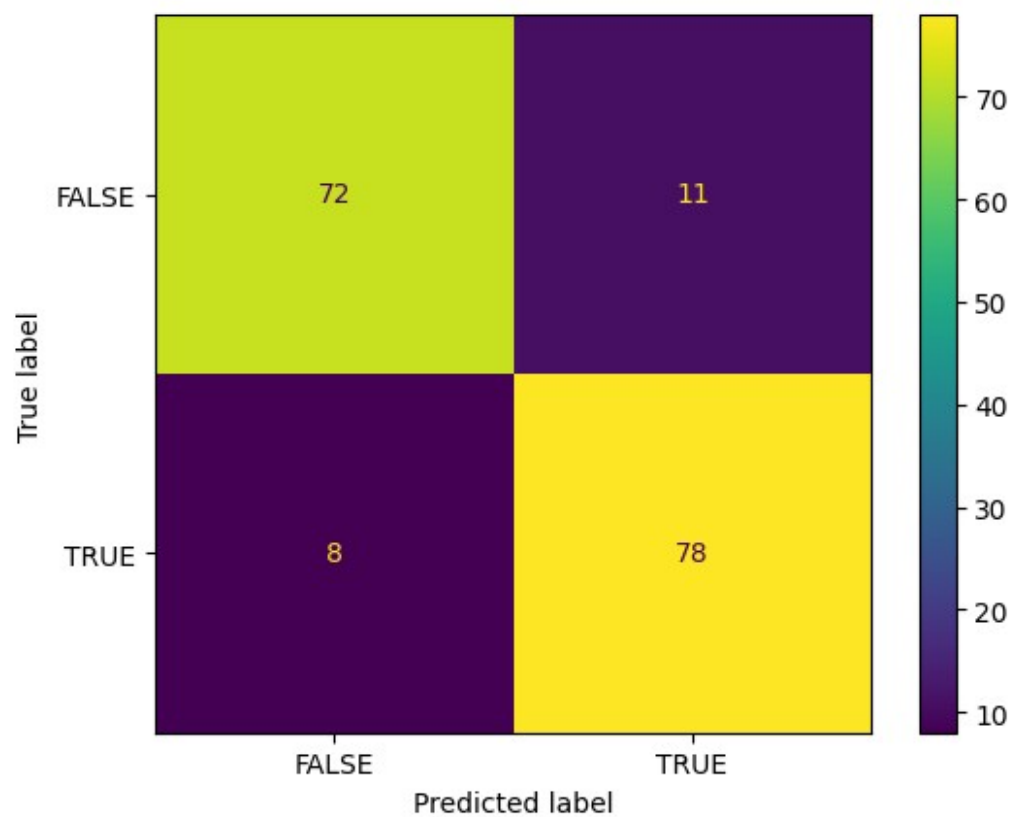
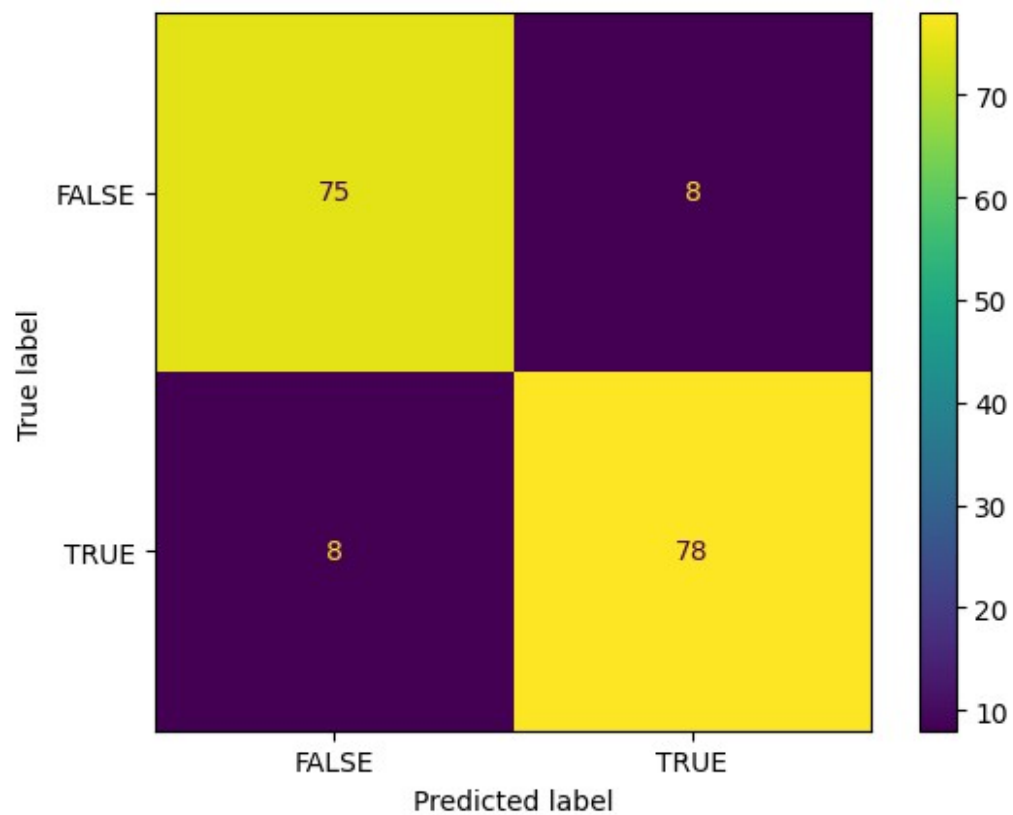
max_features: 'sqrt'

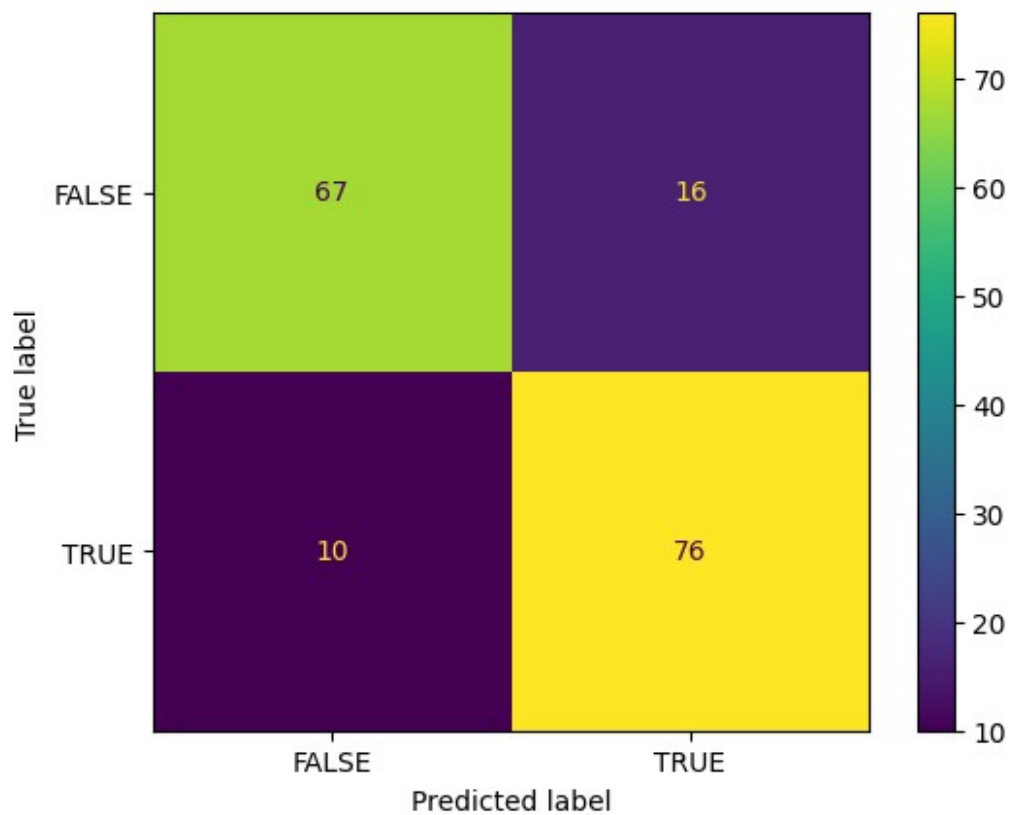
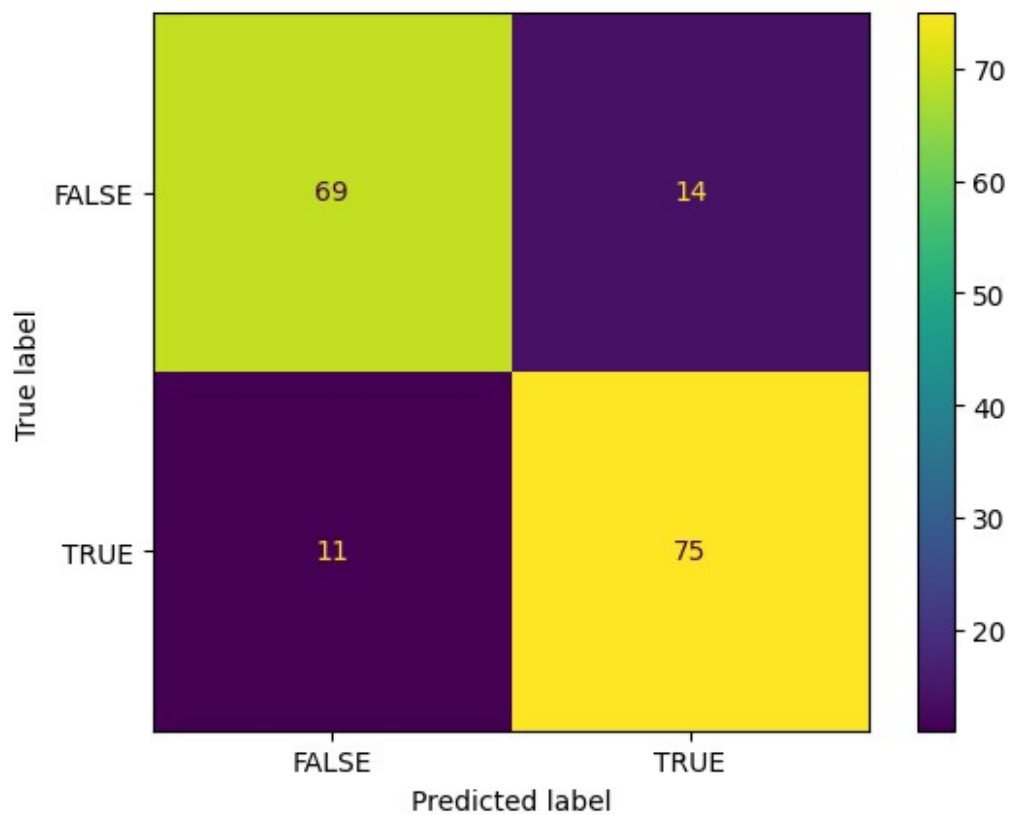


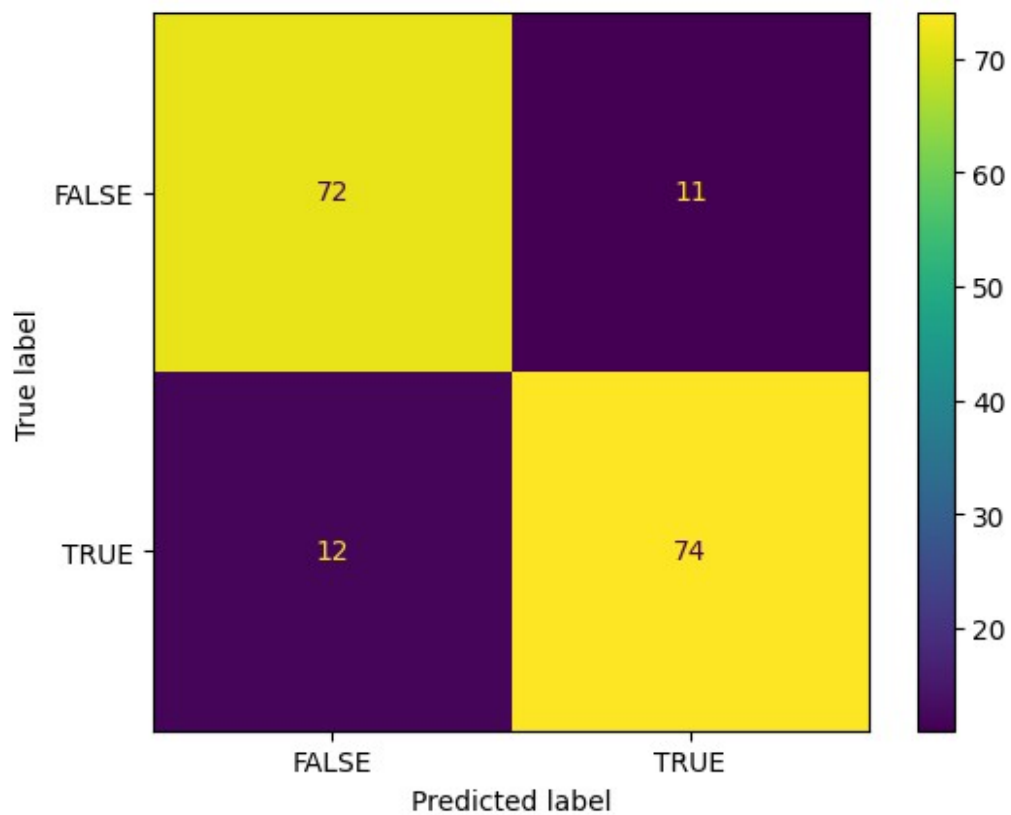
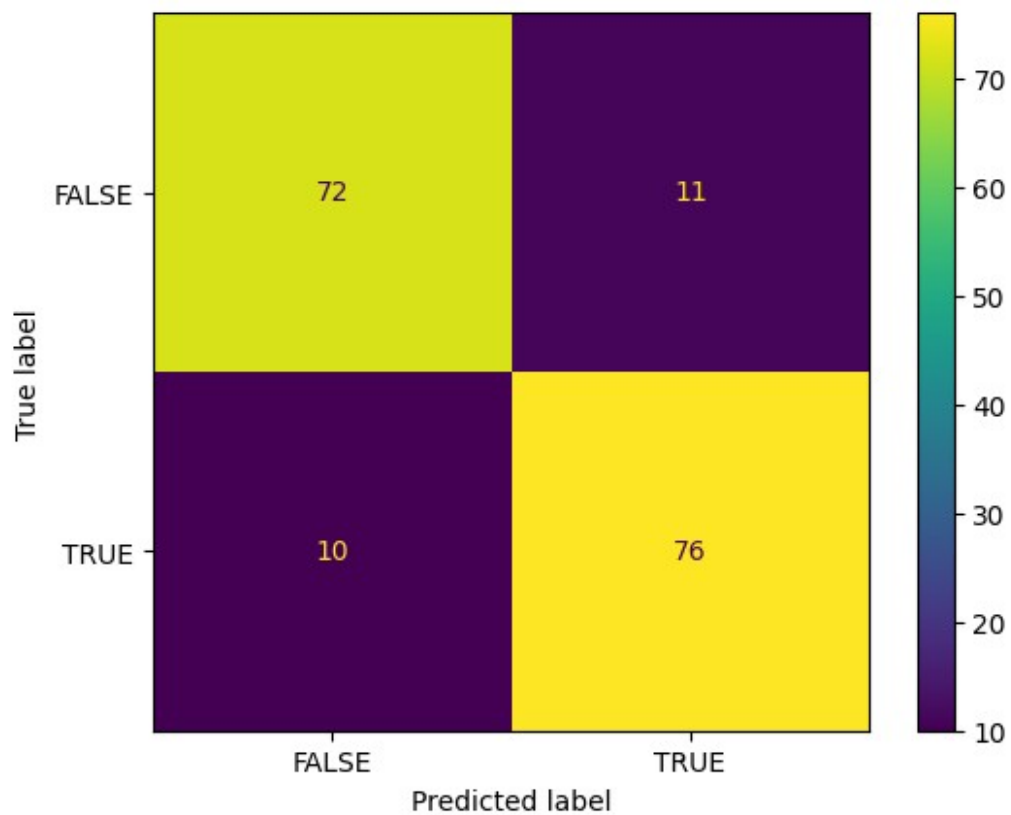


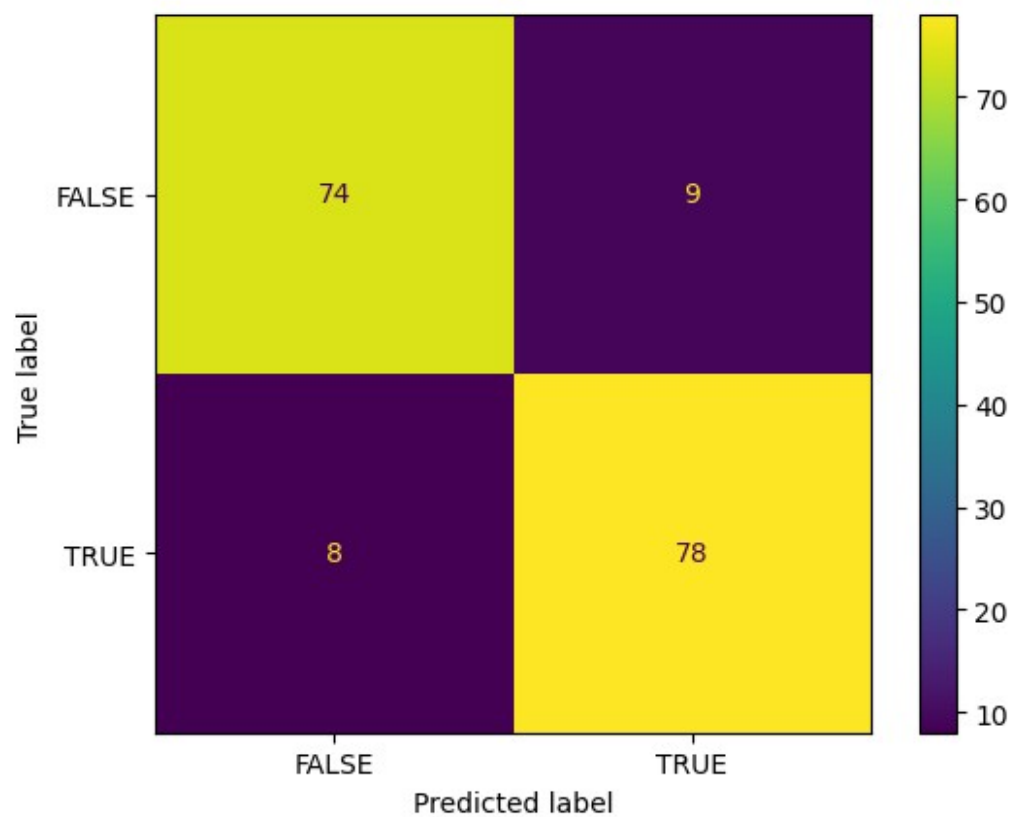
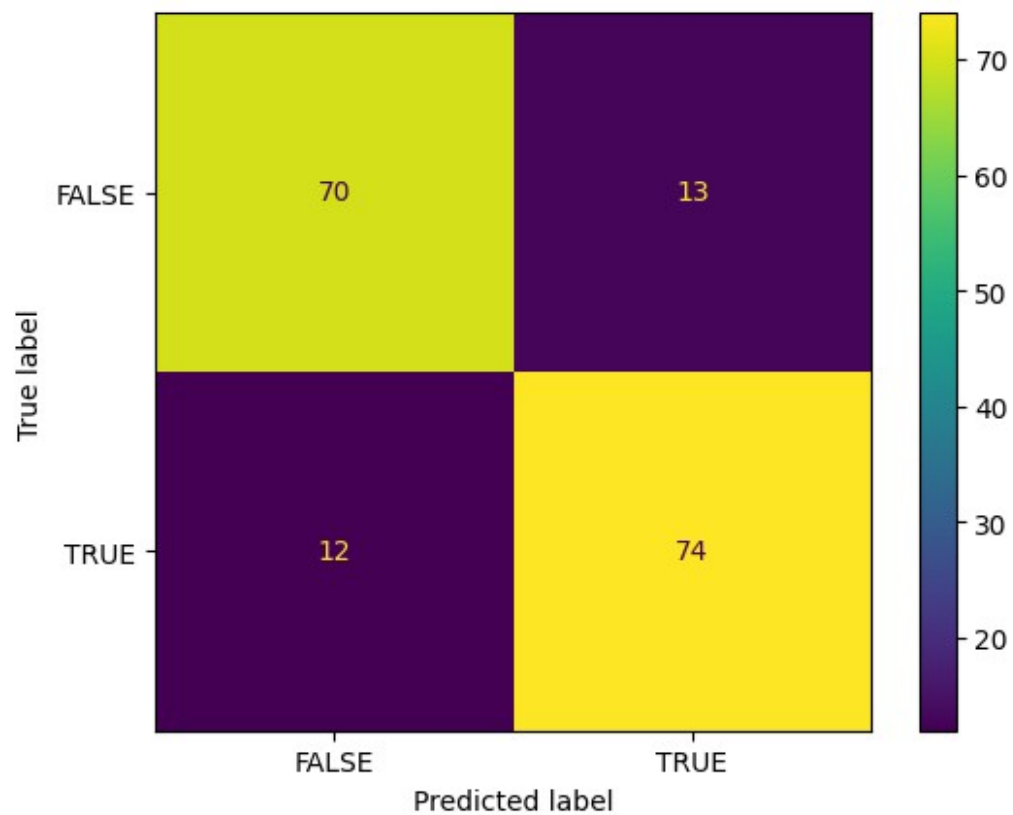












##Etape 4 : Classification selon la colonne TEXT_TITLE + extraction/application d'entités nommées

Tests de Classification pour trouver le meilleur classifieur, les meilleurs paramètres de prétraitement et les meilleurs hyper_paramètres.

Avant de classer on applique les entités nommées, Cette fonction utilise Spacy pour extraire les entités nommées à partir d'une liste de textes et les stocke dans une liste pour être affichées avec leurs labels correspondants.

concaténation des cellules "text" et "title"

```
text_title = dftrain.apply(lambda x : '{'}
{'}'.format(x['text'],x['title']),axis=1)

dftrain['text_title'] = text_title
X_text_title = dftrain.iloc[0:,-1]
X_text_title.reset_index(drop = True, inplace = True)
```

Cette fonction a pour but d'ajouter le type d'entité de chaque token détecté à coté de chaque entité détectée dans le texte qu'elle prend en entrée, et retourne le texte modifié avec les informations ajoutées sur les entités nommées.

```
texte=dftrain['text_title']
#Créer une liste pour stocker les entités nommées
entities = []
# Traiter chaque texte individuellement et ajouter les entités à la
liste
for phrase in texte:
    doc = nlp(phrase)
    for ent in doc.ents:
        entities.append((ent.text, ent.label_))

# Afficher les entités nommées
for entity in entities:
    print(entity[0], entity[1])
```

Le flux de sortie a été tronqué et ne contient que les 5000 dernières lignes.

```
FAC ORG
96 (PERCENT) % PERCENT
China GPE
GPE ORG
U.S. GPE
CARDINAL ORG
CARDINAL ORG
2 CARDINAL
CARDINAL ORG
CARDINAL ORG
Wuhan GPE
```


GPE ORG
China GPE
GPE ORG
GPE ORG
Newsweek ORG
ORG ORG
April DATE
2020 DATE
NIH ORG
ORG ORG
Anthony PERSON
CARDINAL ORG
CARDINAL ORG
200 CARDINAL
CARDINAL ORG
2014 DATE
U.S. GPE
GPE ORG
Fauci PERSON
ORG ORG
2017 DATE
April DATE
2020 DATE
Wuhan GPE
ORG) Institute ORG
China GPE
GPE ORG
Fauci (ORG) 's ORG
ORG ORG
Steve PERSON
Fox ORG
ORG ORG
The (WORK_OF_ART) WORK_OF_ART
Yunnan GPE
GPE ORG
GPE ORG
Wuhan GPE
GPE ORG
1,000 CARDINAL
QUANTITY ORG
miles PERSON
QUANTITY ORG
Hilton PERSON
Sunday DATE
Wuhan GPE
GPE ORG
February DATE
2020 DATE
Yunnan GPE
GPE ORG

COVID-19 PERSON
Hilton PERSON
NIH ORG
ORG ORG
GenBank ORG
ORG ORG
CARDINAL ORG
CARDINAL ORG
COVID-19 ORG
ORG ORG
Yunnan GPE
GPE ORG
Hilton GPE
GPE ORG
Wuhan GPE
GPE ORG
Yunnan GPE
GPE ORG
GenBank ORG
ORG ORG
Yunnan GPE
GPE ORG
Wuhan GPE
GPE ORG
Hilton PERSON
two CARDINAL
CARDINAL ORG
two CARDINAL
CARDINAL ORG
COVID-19 PERSON
NAID ORG
30 CARDINAL
2017 DATE
NAID ORG
ORG ORG
Hilton PERSON
NAID ORG
ORG ORG
Wuhan GPE
GPE ORG
first ORDINAL
COVID-19 ORG
ORG ORG
2019 DATE
UK GPE
GPE ORG
first ORDINAL
Today DATE
Nicola ORG
ORG ORG

Dandridge PERSON
CBE PERSON
ORG ORG
Chris PERSON
Dame Julia PERSON
first ORDINAL
100 CARDINAL
years DATE
5 CARDINAL
years DATE
David PERSON
Greg PERSON
Clark PERSON
OECD ORG
ORG ORG
Graduate PERSON
2007 DATE
87.5 (PERCENT) % PERCENT
UK GPE
GPE ORG
HE GPE
GPE ORG
4 CARDINAL
CARDINAL ORG
10 CARDINAL
CARDINAL ORG
Unfinished PERSON
months DATE
3 CARDINAL
CARDINAL ORG
firstly ORDINAL
2020 DATE
2009 DATE
first ORDINAL
2012 DATE
HEPI ORG
ORG ORG
BBC ORG
ORG ORG
ORG ORG
ComRes ORG
ORG ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
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March DATE
Department (ORG ORG
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BIS ORG
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ORG) DfE ORG
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National (ORG) Student (ORG) Survey (ORG ORG
US GPE
GPE ORG
ORG) Authority ORG
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CARDINAL ORG
3 CARDINAL
years DATE
the 1992 DATE
2006 DATE
2015 DATE
PERCENT ORG
55 DATE
PERCENT ORG
45 DATE
22,000 MONEY
CBI ORG
ORG ORG
Skills (ORG ORG
47 (PERCENT) % PERCENT
Parliament ORG
ORG ORG
David PERSON
ORG ORG
English LANGUAGE
ORG ORG
ORG ORG
TEF ORG
TEF ORG
ORG ORG
TEF ORG
ORG ORG
REF ORG
ORG ORG
ORG) Agency ORG
ORG ORG
2010 DATE

ORG) Department ORG
Skills PRODUCT
CARDINAL ORG
TEF ORG
ORG ORG
UK GPE
GPE ORG
2015 DATE
ORG ORG
2:1 CARDINAL
QUANTITY ORG
QUANTITY ORG
2:1s CARDINAL
CARDINAL ORG
UK GPE
GPE ORG
300 (PERCENT) % PERCENT
1990s DATE
70 DATE
First ORDINAL
2:1 CARDINAL
CARDINAL ORG
CARDINAL ORG
5 CARDINAL
years DATE
PERCENT ORG
47 DATE
mid-1990s DATE
2013 DATE
14 CARDINAL
CARDINAL ORG
PERCENT ORG
second ORDINAL
ORG) Academy ORG
ORG ORG
CARDINAL ORG
CARDINAL ORG
ORG ORG
First ORDINAL
2:1 CARDINAL
CARDINAL ORG
2:2 CARDINAL
CARDINAL ORG
Third ORDINAL
GPA ORG
13 CARDINAL
CARDINAL ORG
2:1 CARDINAL
CARDINAL ORG
ORG ORG

ORG ORG
30.5 CARDINAL
TIME ORG
hours TIME
TIME ORG
14 CARDINAL
TIME ORG
hours TIME
TIME ORG
weekly DATE
Mass (ORG) Communications ORG
ORG ORG
ORG ORG
QUANTITY ORG
QUANTITY ORG
QUANTITY ORG
22 DATE
QUANTITY ORG
hours TIME
QUANTITY ORG
GPA ORG
ORG ORG
Robert PERSON
ORG ORG
UK GPE
GPE ORG
GPA ORG
ORG ORG
Higher PERSON
ORG) ORG
ORG ORG
2012 DATE
2020 DATE
CARDINAL ORG
2009 DATE
Les PERSON
Ebdon PERSON
2 CARDINAL
years DATE
CNN ORG
ORG ORG
Sweden GPE
GPE ORG
Sweden GPE
GPE ORG
first ORDINAL
two CARDINAL
CARDINAL ORG
Sweden GPE
GPE ORG

GPE ORG
Egalia GPE
GPE ORG
Latin LANGUAGE
first ORDINAL
Egalia GPE
GPE ORG
10 CARDINAL
ORG ORG
15 CARDINAL
CARDINAL ORG
10 CARDINAL
14 CARDINAL
Sweden GPE
GPE ORG
fourth ORDINAL
1998 DATE
Lotta GPE
first ORDINAL
CARDINAL ORG
CARDINAL ORG
five CARDINAL
Stockholm GPE
GPE ORG
Rajalin GPE
ORG ORG
heroines CARDINAL
CARDINAL ORG
Bangladesh ORG
GPE ORG
Bangladesh GPE
GPE ORG
CARDINAL ORG
CARDINAL ORG
third ORDINAL
CARDINAL ORG
Shidhulai PERSON
TIME ORG
morning TIME
TIME ORG
CARDINAL ORG
CARDINAL ORG
30 CARDINAL
CARDINAL ORG
hundreds CARDINAL
CARDINAL ORG
CARDINAL ORG
UK GPE
GPE ORG
Sevenoaks (ORG) School (ORG ORG

UK GPE
GPE ORG
VR ORG
ORG ORG
three CARDINAL
CARDINAL ORG
CARDINAL ORG
Bali PERSON
Bali GPE
GPE ORG
three CARDINAL
CARDINAL ORG
CARDINAL ORG
10 CARDINAL
CARDINAL ORG
Ghana GPE
GPE ORG
Ghana PERSON
GPE ORG
TIME ORG
40 DATE
TIME ORG
hours TIME
TIME ORG
CARDINAL ORG
Canada GPE
GPE ORG
Canada GPE
GPE ORG
U.S. GPE
GPE ORG
iPads (ORG ORG
Google ORG
CARDINAL ORG
Netherlands GPE
GPE ORG
Steve PERSON
Apple ORG
iPad ORG
ORG ORG
Netherlands GPE
GPE ORG
Johannesburg GPE
GPE ORG
2016 DATE
CARDINAL ORG
Sweden GPE
GPE ORG
Egalia GPE
GPE ORG

Stockholm GPE
GPE ORG
Sweden GPE
GPE ORG
CARDINAL ORG
Singapore GPE
GPE ORG
Singapore GPE
GPE ORG
Pepper (ORG ORG
CARDINAL ORG
Denmark GPE
GPE ORG
Denmark GPE
GPE ORG
ORG ORG
ORG ORG
10 (PERCENT) percent PERCENT
Danish NORP
CARDINAL ORG
USA GPE
GPE ORG
GPE ORG
2018 DATE
19 CARDINAL
India GPE
GPE ORG
Botswana PERSON
GPE ORG
Japan GPE
GPE ORG
Spain GPE
GPE ORG
Rajalin PERSON
CNN ORG
ORG ORG
Lotta PERSON
Nicolaigarden ORG
ORG ORG
Egalia GPE
GPE ORG
Rajalin PERSON
two CARDINAL
CARDINAL ORG
Rajalin PERSON
Rajalin PERSON
Ben PERSON
Uppsala ORG
ORG) University ORG
Sweden GPE

GPE ORG
Oxford ORG
ORG) University ORG
England GPE
GPE ORG
Swedish NORP
years DATE
Swedish NORP
NORP PERSON
David PERSON
CNN ORG
ORG ORG
Rajalin PERSON
Rajalin PERSON
Eberhard PERSON
Sweden GPE
GPE ORG
Rajalin PERSON
Philip PERSON
Hwang PERSON
ORG ORG
Rajalin PERSON
CNN ORG
ORG ORG
Trump WORK_OF_ART
ORG ORG
ORG ORG
EU ORG
ORG ORG
one CARDINAL
nine CARDINAL
CARDINAL ORG
Britain GPE
GPE ORG
SUBSCRIBE PRODUCT
Invalid PERSON
TIME ORG
TIME ORG
six CARDINAL
years DATE
2010 DATE
CARDINAL ORG
2.2 CARDINAL
CARDINAL ORG
CARDINAL ORG
Britain GPE
GPE ORG
28.2 CARDINAL
CARDINAL ORG
CARDINAL ORG

CARDINAL ORG
1.1 CARDINAL
CARDINAL ORG
CARDINAL ORG
Europe LOC
LOC ORG
3.4 CARDINAL
CARDINAL ORG
CARDINAL ORG
30.3 CARDINAL
CARDINAL ORG
CARDINAL ORG
2.2 CARDINAL
CARDINAL ORG
CARDINAL ORG
EU ORG
ORG ORG
1.2 CARDINAL
CARDINAL ORG
CARDINAL ORG
ORG ORG
EU ORG
ORG ORG
years DATE
Britain GPE
GPE ORG
EU ORG
ORG ORG
Theresa PERSON
British NORP
six CARDINAL
years DATE
EU ORG
ORG ORG
Brexit PERSON
28 CARDINAL
CARDINAL ORG
European NORP
ORG ORG
Getty PERSON
29 CARDINAL
CARDINAL ORG
European NORP
ORG ORG
ORG ORG
11.2 PERSON
UK GPE
GPE ORG
2016 DATE
EU ORG

761,000 CARDINAL
CARDINAL ORG
508,000 CARDINAL
CARDINAL ORG
EU ORG
ORG ORG
669,000 CARDINAL
CARDINAL ORG
510,000 CARDINAL
CARDINAL ORG
EU ORG
ORG ORG
Eight CARDINAL
eight CARDINAL
CARDINAL ORG
European NORP
EU8 PERSON
FAC ORG
EU ORG
ORG ORG
2004 DATE
Czech NORP
GPE ORG
Estonia GPE
GPE ORG
Hungary GPE
GPE ORG
Latvia GPE
GPE ORG
Lithuania GPE
GPE ORG
Poland GPE
GPE ORG
Slovakia ORG
GPE ORG
Slovenia GPE
GPE ORG
EU ORG
ORG ORG
11 CARDINAL
Seven CARDINAL
eight CARDINAL
CARDINAL ORG
EU ORG
ORG ORG
CARDINAL ORG
eight CARDINAL
CARDINAL ORG
382,000 CARDINAL
CARDINAL ORG

EU ORG
ORG ORG
GPE ORG
Jane PERSON
EU ORG
ORG ORG
Brussels GPE
GPE ORG
CARDINAL ORG
701,000 CARDINAL
CARDINAL ORG
non - UK GPE
GPE ORG
EU ORG
ORG ORG
Yesterday DATE
CARDINAL ORG
CARDINAL ORG
thousands CARDINAL
CARDINAL ORG
European NORP
Britain GPE
GPE ORG
Theresa PERSON
UK GPE
GPE ORG
Homeless PERSON
24 (PERCENT) % PERCENT
597 CARDINAL
CARDINAL ORG
Three CARDINAL
CARDINAL ORG
four CARDINAL
CARDINAL ORG
today DATE
CARDINAL ORG
half CARDINAL
CARDINAL ORG
just two CARDINAL
CARDINAL ORG
165 CARDINAL
CARDINAL ORG
Gynaecologists (NORP ORG
today DATE
CARDINAL ORG
half CARDINAL
CARDINAL ORG
TIME ORG
minutes TIME
TIME ORG

CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
hours TIME
TIME ORG
165 CARDINAL
CARDINAL ORG
NHS ORG
ORG ORG
82 CARDINAL
CARDINAL ORG
CARDINAL ORG
73 CARDINAL
CARDINAL ORG
TIME ORG
10 CARDINAL
TIME ORG
TIME ORG
TIME ORG
TIME ORG
TIME ORG
Another 43 CARDINAL
89 DATE
evening TIME
TIME ORG
England GPE
ORG ORG
Birmingham GPE
GPE ORG
Central ORG
Manchester PERSON
ORG) University ORG
Maureen PERSON
Treadwell PERSON
night TIME
TIME ORG
Jonathan PERSON
Labour ORG
five CARDINAL
NHS Jonathan PERSON
Labour ORG
night TIME
TIME ORG
Tories NORP
ORG ORG
n't GPE
five CARDINAL
ORG ORG
Elizabeth PERSON
Duff PERSON

ORG ORG
2009 DATE
Imperial (ORG) College (ORG) ORG
ORG ORG
Cambridge GPE
ORG) University ORG
2010 DATE
overnight TIME
TIME ORG
Scottish NORP
a third CARDINAL
THE WEEK Angela EVENT
Owens PERSON
Ella PERSON
ORG ORG
today DATE
Angela PERSON
Owens PERSON
Ella PERSON
ORG ORG
today DATE
two CARDINAL
weeks DATE
Saturday DATE
afternoon TIME
TIME ORG
four CARDINAL
Christmas DATE
2013 DATE
31 DATE
Warrington ORG
ORG ORG
GP ORG
ORG ORG
Ella ORG
ORG ORG
11 CARDINAL
TIME ORG
TIME ORG
the Saturday DATE
two CARDINAL
CARDINAL ORG
Paul PERSON
Ella ORG
ORG ORG
CARDINAL ORG
ten CARDINAL
CARDINAL ORG
Warrington ORG
ORG ORG

12 CARDINAL
English LANGUAGE
NHS ORG
ORG ORG
2014/15 CARDINAL
CARDINAL ORG
24 CARDINAL
1989 DATE
NHS ORG
ORG ORG
NHS ORG
ORG ORG
overnight TIME
TIME ORG
hours TIME
TIME ORG
Tomorrow DATE
NHS ORG
ORG ORG
first ORDINAL
Ofsted ORG
Biden PERSON
Russia GPE
GPE ORG
SolarWinds ORG
ORG ORG
Tesco ORG
ORG ORG
59,400 CARDINAL
CARDINAL ORG
CARDINAL ORG
119 CARDINAL
CARDINAL ORG
CARDINAL ORG
Tesco PERSON
ORG ORG
4 (PERCENT) % PERCENT
2015 DATE
CARDINAL ORG
CARDINAL ORG
Tesco ORG
ORG ORG
annual DATE
Tesco ORG
ORG ORG
Dave PERSON
today DATE
Tesco ORG
ORG ORG
UK GPE

GPE ORG
three CARDINAL
years DATE
UK GPE
GPE ORG
Tesco ORG
ORG ORG
2013 DATE
Tesco ORG
ORG ORG
2 (PERCENT) % PERCENT
0.5 CARDINAL
QUANTITY ORG
QUANTITY ORG
Lewis PERSON
Unilever ORG
ORG ORG
Tesco ORG
ORG ORG
2014 DATE
ORG ORG
Tesco ORG
ORG ORG
February DATE
2017 DATE
Tesco ORG
ORG ORG
years DATE
millions CARDINAL
CARDINAL ORG
Tesco PERSON
ORG ORG
Dave PERSON
Neil PERSON
Tesco ORG
ORG ORG
Asda ORG
Sainsbury ORG
Morrisons PERSON
fifth ORDINAL
Coca (ORG) - (ORG
Nestle ORG
ORG ORG
2025 DATE
ORG) Resources (ORG) Action ORG
1.9 CARDINAL
QUANTITY ORG
QUANTITY ORG
QUANTITY ORG
UK GPE

GPE ORG
Tesco PERSON
ORG ORG
Dr Richard PERSON
Wrap (ORG ORG
ORG ORG
UK GPE
GPE ORG
2025 DATE
200,000 CARDINAL
QUANTITY ORG
QUANTITY ORG
UK GPE
GPE ORG
WRAP ORG
ORG ORG
27 CARDINAL
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
UK GPE
GPE ORG
2025 DATE
Ohio GPE
GPE ORG
163 CARDINAL
CARDINAL ORG
George PERSON
Soros PERSON
Soros PERSON
Craigslist NORP
Paid PERSON
6 DATE
TIME ORG
hours TIME
TIME ORG
30 MONEY
40 MONEY
70 DATE
neary \$ 1 MONEY
Soros PERSON
n't GPE
n't PERSON
Joe PERSON
George PERSON
Soros PERSON
an extra \$ 500 MONEY
Art PERSON

163 CARDINAL
CARDINAL ORG
Soros PERSON
Deluth GPE
GPE ORG
Charlie PERSON
Kirk PERSON
Turning PERSON
Turning PERSON
163 CARDINAL
CARDINAL ORG
Soros PERSON
NPR ORG
ORG ORG
NPR ORG
ORG ORG
NPR ORG
NPR ORG
ORG ORG
NPR ORG
ORG ORG
months DATE
WHO ORG
WHO ORG
34 DATE
CARDINAL ORG
Monday DATE
October DATE
5th ORDINAL
n't PERSON
Michael PERSON
Ryan PERSON
WHO ORG
PERCENT ORG
10 (PERCENT) % PERCENT
CARDINAL ORG
35 DATE
CARDINAL ORG
CARDINAL ORG
Margaret PERSON
Harris PERSON
WHO ORG
ORG ORG
WHO ORG
ORG ORG
Ryan PERSON
CARDINAL ORG
7.8 CARDINAL
CARDINAL ORG
CARDINAL ORG

10 (PERCENT) % PERCENT
780 CARDINAL
CARDINAL ORG
CARDINAL ORG
1,061,539 CARDINAL
CARDINAL ORG
0.14 (PERCENT) % PERCENT
0.14 (PERCENT) % PERCENT
24 DATE
CARDINAL ORG
WHO ORG
3.4 (PERCENT) % PERCENT
March DATE
Covid PERSON
ORG ORG
Covid PERSON
Dr GPE
WHO ORG
ORG ORG
CNN ORG
ORG ORG
GPE ORG
ORG ORG
CNN ORG
ORG ORG
Jeff PERSON
ORG ORG
Friday DATE
US GPE
GPE ORG
US GPE
GPE ORG
CDC ORG
ORG ORG
US GPE
GPE ORG
CDC ORG
ORG ORG
Amazon ORG
ORG ORG
Orwell ORG
Eighty PERSON
Four CARDINAL
Trump ORG
ORG ORG
Kellyanne PERSON
Jezebel PERSON
Hannah PERSON
Arendt PERSON
1951 DATE

Donald PERSON
November DATE
Jews NORP
first ORDINAL
Nazi NORP
Trump ORG
ORG ORG
Jewish NORP
Europe LOC
LOC ORG
John PERSON
Naughton PERSON
David PERSON
Runciman PERSON
Talking PERSON
ORG ORG
n't GPE
20 CARDINAL
years DATE
Trump ORG
ORG ORG
Washington GPE
GPE ORG
Pennsylvania GPE
FAC ORG
March DATE
January DATE
Joshua PERSON
Lott PERSON
CARDINAL ORG
First ORDINAL
n't GPE
NORP PERSON
Second ORDINAL
Runciman PERSON
CARDINAL ORG
Arendt ORG
ORG ORG
Griselda PERSON
Arendt ORG
GPE ORG
two CARDINAL
CARDINAL ORG
n't ORG
n't GPE
Arendt ORG
ORG ORG
Germany GPE
GPE ORG
1906 DATE

1933 DATE
Palestine GPE
GPE ORG
Jewish NORP
Hitler PERSON
1964 DATE
n't PERSON
Nazis NORP
Germans NORP
1933 DATE
Jewish NORP
Arendt ORG
Jewish NORP
CARDINAL ORG
CARDINAL ORG
Paris GPE
GPE ORG
German NORP
NORP PERSON
1937 DATE
GPE ORG
1941 DATE
FAC ORG
France GPE
GPE ORG
Holocaust EVENT
Auschwitz PERSON
ORG ORG
n't GPE
Arendt (ORG ORG
GPE ORG
1972 DATE
ORG ORG
1960s DATE
Eichmann PERSON
NORP PERSON
Jerusalem GPE
GPE ORG
Adolf PERSON
Jews NORP
Jews NORP
three CARDINAL
TIME ORG
minutes TIME
TIME ORG
Martin PERSON
Heidegger PERSON
20s DATE
Nazi NORP
Nazi NORP

US GPE
today DATE
ORG ORG
n't GPE
Arendt (ORG) 's ORG
Origins PERSON
1958 DATE
Holocaust EVENT
Arendt PERSON
ORG ORG
two CARDINAL
CARDINAL ORG
First ORDINAL
Greek NORP
Greek NORP
Arendt ORG
CARDINAL ORG
Trump ORG
ORG ORG
Leninist PERSON
ORG ORG
Trump ORG
ORG ORG
Mark PERSON
Davis PERSON
Bauman PERSON
Leeds PERSON
GPE ORG
1970 DATE
Downing (FAC) Street ORG
FAC ORG
January DATE
Ben PERSON
CARDINAL ORG
First ORDINAL
Muslims NORP
today DATE
Hannah PERSON
Arendt PERSON
Downing (FAC) Street ORG
FAC ORG
Davis PERSON
CARDINAL ORG
CARDINAL ORG
n't GPE
Arendt PERSON
ORG ORG
ORG ORG
The (WORK_OF_ART) Twilight WORK_OF_ART
NASA ORG

ORG ORG
Antarctica LOC
LOC ORG
1960s DATE
sci (ORG) - (ORG
ORG ORG
ORG ORG
GPE ORG
ORG ORG
NASA ORG
Antenna PERSON
ANITA ORG
ORG ORG
Antarctica LOC
LOC ORG
Earth LOC
LOC ORG
Earth LOC
LOC ORG
Manoa PERSON
GPE ORG
ANITA ORG
ORG ORG
Earth LOC
LOC ORG
ORG ORG
ANITA PERSON
ORG ORG
Peter PERSON
Gorham PERSON
ORG ORG
Earth LOC
LOC ORG
Gorham PERSON
Cornell GPE
ORG) University ORG
ORG ORG
New (ORG) Scientist ORG
ORG ORG
ORG ORG
13.8 CARDINAL
years DATE
two CARDINAL
CARDINAL ORG
Ibrahim PERSON
Christian (NORP ORG
One CARDINAL
Catholic NORP
Kentucky GPE
GPE ORG

Native NORP
Vietnam GPE
GPE ORG
Saturday DATE
Covington PERSON
Park Hillswere FAC
Washington GPE
GPE ORG
Friday DATE
CARDINAL ORG
Phillips ORG
ORG ORG
Donald PERSON
MAGA ORG
ORG ORG
Phillips PERSON
ORG ORG
Friday DATE
Alyssa PERSON
Chris PERSON
Evans PERSON
Diocese NORP
Covington ORG
Nathan (ORG) ORG
Native (NORP ORG
Americans NORP
Phillips PERSON
the Church (ORG) 's ORG
Covington PERSON
ORG ORG
Joe PERSON
Democrat NORP
64 CARDINAL
Phillips PERSON
ORG ORG
Nebraska GPE
GPE ORG
Omaha GPE
GPE ORG
ORG ORG
Washington GPE
Shoshana PERSON
four CARDINAL
years DATE
Phillips PERSON
ORG ORG
Phillips PERSON
ORG ORG
annual DATE
Arlington GPE

Native PERSON
American NORP
Native (NORP) ORG
American NORP
the Standing (ORG) Rock (ORG ORG
2016 DATE
2017 DATE
North (GPE) Dakota ORG
GPE ORG
Democratic NORP
US GPE
GPE ORG
New (GPE) Mexico ORG
GPE ORG
Twitter PERSON
Phillips PERSON
ORG ORG
Reuters ORG
ORG ORG
Associated ORG
ORG ORG
Garba PERSON
Britain GPE
GPE ORG
0.7 PERSON
an extra MONEY
two CARDINAL
years DATE
European NORP
ORG ORG
yesterday DATE
ORG) Department ORG
ORG ORG
Britain GPE
GPE ORG
EU ORG
ORG ORG
UK GPE
GPE ORG
second ORDINAL
yesterday DATE
Britain GPE
GPE ORG
0.7 PERSON
1bn MONEY
two CARDINAL
years DATE
Europe LOC
LOC ORG
Jonathan PERSON

Labour ORG
today DATE
3 CARDINAL
4 CARDINAL
months DATE
Labour ORG
Britain GPE
GPE ORG
3 CARDINAL
4 CARDINAL
months DATE
ORG ORG
Labour ORG
National (ORG) Child (ORG) Health (ORG) Fund ORG
ORG ORG
Britain GPE
GPE ORG
Today DATE
Labour ORG
Jonathan PERSON
the national Health (ORG) Visitor ORG
2015 DATE
CARDINAL ORG
CARDINAL ORG
2017/18 CARDINAL
CARDINAL ORG
5 CARDINAL
ORG ORG
8,244 CARDINAL
CARDINAL ORG
NHS ORG
ORG ORG
December DATE
2017 DATE
August DATE
2013 DATE
10,309 CARDINAL
CARDINAL ORG
October DATE
2015 DATE
CARDINAL ORG
CARDINAL ORG
2,065 CARDINAL
CARDINAL ORG
20 (PERCENT) % PERCENT
two CARDINAL
years DATE
12 DATE
17 (PERCENT) % PERCENT
LOC ORG

LOC ORG
LOC ORG
England GPE
GPE ORG
17 DATE
6 CARDINAL
8 CARDINAL
London GPE
GPE ORG
1/3 CARDINAL
CARDINAL ORG
12 CARDINAL
CARDINAL ORG
London GPE
GPE ORG
44 DATE
North ORG
LOC ORG
LOC ORG
two CARDINAL
half CARDINAL
PERCENT ORG
64 (PERCENT) % PERCENT
London GPE
GPE ORG
73 (PERCENT) % PERCENT
LOC ORG
LOC ORG
LOC ORG
England GPE
LOC ORG
Jonathan PERSON
today DATE
Infant PERSON
first ORDINAL
ORG ORG
ORG ORG
UNICEF ORG
ORG ORG
Scotland GPE
GPE ORG
Northern (GPE) Ireland ORG
GPE ORG
70 (PERCENT) % PERCENT
2030 DATE
Jonathan PERSON
Labour ORG
London GPE
GPE ORG
Michael PERSON

UK GPE
GPE ORG
NHS ORG
ORG ORG
David PERSON
Cameron PERSON
Theresa PERSON
20 (PERCENT) percent PERCENT
two CARDINAL
years DATE
England GPE
GPE ORG
UK GPE
GPE ORG
Health (ORG) Visitors ORG
ORG ORG
3 CARDINAL
4 CARDINAL
months DATE
an extra £ MONEY
National (ORG) Child (ORG) Health (ORG) Fund ORG
ORG ORG
20 CARDINAL
100 CARDINAL
Rick PERSON
Scott PERSON
Democrats NORP
Liberal (GPE) States ORG
GPE ORG
Cambodia GPE
GPE ORG
Sam PERSON
GPE ORG
seven CARDINAL
CARDINAL ORG
CNRP ORG
ORG ORG
Cambodia GPE
GPE ORG
Sam PERSON
GPE ORG
seven CARDINAL
CARDINAL ORG
CNRP ORG
ORG ORG
ORG ORG
Sam PERSON
eight CARDINAL
CARDINAL ORG
ORG ORG

Chin PERSON
yesterday DATE
Duch PERSON
Monday DATE
Rainsy PERSON
25 CARDINAL
years DATE
Mu PERSON
Sochua PERSON
Eng PERSON
22 CARDINAL
years DATE
six CARDINAL
CARDINAL ORG
20 CARDINAL
years DATE
Rainsy PERSON
Tioulong PERSON
Saumura GPE
Ou PERSON
Vann PERSON
Long Ry GPE
GPE ORG
Nuth PERSON
ORG ORG
the Kingdom (GPE GPE
November DATE
9 CARDINAL
2019 DATE
Rainsy PERSON
Cambodian NORP
Hun PERSON
Cambodian NORP
Rainsy PERSON
Hun PERSON
Cambodia GPE
GPE ORG
ORG ORG
Malin PERSON
Malin PERSON
CNRP ORG
ORG ORG
Cambodia GPE
GPE ORG
130 CARDINAL
CARDINAL ORG
nine CARDINAL
CARDINAL ORG
CNRP ORG
ORG ORG

US GPE
ORG ORG
Phnom GPE
GPE ORG
yesterday DATE
nine CARDINAL
CARDINAL ORG
Cambodian NORP
American NORP
CARDINAL ORG
CARDINAL ORG
130 CARDINAL
CARDINAL ORG
Cambodia GPE
GPE ORG
2022 DATE
Cambodian NORP
ORG ORG
Sok PERSON
yesterday DATE
ex - CNRP ORG
ORG ORG
2022 DATE
2023 DATE
CARDINAL ORG
ORG ORG
America GPE
GPE ORG
Christian NORP
Americans NORP
Christianity NORP
Nazi NORP
Germany GPE
GPE ORG
GPE ORG
Donald PERSON
66 CARDINAL
CARDINAL ORG
GPE ORG
GPE) America ORG
GPE ORG
IRS ORG
ORG ORG
years DATE
Americans NORP
America GPE
GPE ORG
n't GPE
Trump ORG
ORG ORG

ORG) Church ORG
Kafka PERSON
Kafka PERSON
Kafka PERSON
thirty CARDINAL
years DATE
Today DATE
hundreds CARDINAL
two CARDINAL
CARDINAL ORG
1988 DATE
thirty DATE
years DATE
two CARDINAL
Netflix GPE
GPE ORG
CARDINAL ORG
Republican NORP
ORG ORG
CARDINAL ORG
CARDINAL ORG
two CARDINAL
CARDINAL ORG
degrees Celsius PERSON
CARDINAL ORG
CARDINAL ORG
two CARDINAL
CARDINAL ORG
three CARDINAL
decades DATE
CARDINAL ORG
three CARDINAL
decades DATE
GPE ORG
Scientific ORG
ten CARDINAL
CARDINAL ORG
CARDINAL ORG
two CARDINAL
QUANTITY ORG
QUANTITY ORG
CARDINAL ORG
CARDINAL ORG
two CARDINAL
CARDINAL ORG
first ORDINAL
Nature GPE
GPE ORG
thousands CARDINAL
CARDINAL ORG

GPE ORG
Texans NORP
Kafkaesque NORP
European NORP
ORG ORG
Indonesia GPE
GPE ORG
American NORP
China GPE
GPE ORG
COVID-19 ORG
ORG ORG
GPE ORG
China GPE
GPE ORG
CARDINAL ORG
82,000 CARDINAL
CARDINAL ORG
CARDINAL ORG
3,300 CARDINAL
CARDINAL ORG
China GPE
GPE ORG
Wuhan GPE
GPE ORG
11 CARDINAL
CARDINAL ORG
CARDINAL ORG
GPE ORG
CARDINAL ORG
500,000 CARDINAL
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
18,000 CARDINAL
CARDINAL ORG
China GPE
GPE ORG
China GPE
GPE ORG
CARDINAL ORG
21 DATE
CARDINAL ORG
CARDINAL ORG
January DATE
February DATE
China GPE
ORG) Ltd. ORG
ORG ORG
CARDINAL ORG

7.25 CARDINAL
CARDINAL ORG
CARDINAL ORG
China GPE
GPE ORG
Unicom Hong PERSON
ORG ORG
7.8 CARDINAL
CARDINAL ORG
CARDINAL ORG
January DATE
February DATE
China GPE
ORG) Corp. ORG
ORG ORG
5.6 CARDINAL
CARDINAL ORG
CARDINAL ORG
February DATE
ORG ORG
China GPE
GPE ORG
Tang PERSON
China GPE
GPE ORG
ORG ORG
China GPE
GPE ORG
Samantha PERSON
Hoffman PERSON
Australian NORP
Hoffman PERSON
ORG ORG
n't GPE
Lunar PERSON
Bloomberg PERSON
Hoffman PERSON
China GPE
GPE ORG
U.S. GPE
GPE ORG
China GPE
GPE ORG
ORG ORG
Fortune (ORG) Magazine (ORG WORK_OF_ART
Hoffman PERSON
China GPE
GPE ORG
China GPE
GPE ORG

Hoffman PERSON
GPE ORG
Chinese NORP
Business (ORG) Insider (ORG ORG
Beijing GPE
GPE ORG
Hoffman PERSON
China GPE
GPE ORG
Chinese NORP
Communist NORP
ORG) Party ORG
ORG ORG
Hoffman PERSON
Hoffman PERSON
China GPE
GPE ORG
CARDINAL ORG
China GPE
GPE ORG
Hoffman PERSON
U.S. GPE
GPE ORG
U.S. GPE
GPE ORG
State ORG
ORG ORG
Michael PERSON
China GPE
GPE ORG
Mike PERSON
CNN ORG
ORG ORG
America GPE
GPE ORG
Hoffman PERSON
China GPE
GPE ORG
Hoffman PERSON
Chinese NORP
Communist NORP
ORG) Party ORG
ORG ORG
21 DATE
CARDINAL ORG
CARDINAL ORG
China GPE
GPE ORG
Coronavirus ORG
GPE ORG

ORG ORG
Alaska GPE
GPE ORG
Arctic LOC
LOC ORG
Woods ORG
QUANTITY ORG
QUANTITY ORG
QUANTITY ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
hundreds CARDINAL
CARDINAL ORG
QUANTITY ORG
QUANTITY ORG
QUANTITY ORG
1.7 CARDINAL
QUANTITY ORG
QUANTITY ORG
Alaska GPE
GPE ORG
350 CARDINAL
QUANTITY ORG
miles PERSON
QUANTITY ORG
LOC ORG
Arctic LOC
LOC ORG
Circle PERSON
LOC ORG
two CARDINAL
CARDINAL ORG
the Yukon (ORG ORG
Kuskokwim PERSON
three CARDINAL
QUANTITY ORG
QUANTITY ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
Max PERSON
Holmes PERSON
Alaska GPE
GPE ORG
Sarah PERSON
Ludwig PERSON
ORG ORG
Laura PERSON
Jardine PERSON

Jardine PERSON
John PERSON
July DATE
Woods ORG
LOC ORG
LOC ORG
13 CARDINAL
CARDINAL ORG
60 CARDINAL
QUANTITY ORG
miles PERSON
QUANTITY ORG
Bethel (ORG ORG
6,000 CARDINAL
CARDINAL ORG
Woods (ORG
FAC ORG
Sue PERSON
Woods ORG
LOC ORG
LOC ORG
Alaska GPE
GPE ORG
QUANTITY ORG
QUANTITY ORG
2,100 CARDINAL
QUANTITY ORG
QUANTITY ORG
Vladimir PERSON
Romanovsky PERSON
the (ORG) University ORG
ORG ORG
Alaska GPE
ORG) Fairbanks ORG
ORG ORG
65 CARDINAL
QUANTITY ORG
QUANTITY ORG
3 CARDINAL
QUANTITY ORG
QUANTITY ORG
QUANTITY ORG
QUANTITY ORG
5.5 CARDINAL
QUANTITY ORG
QUANTITY ORG
GPE ORG
decades DATE
CARDINAL ORG
QUANTITY ORG

8 CARDINAL
QUANTITY ORG
QUANTITY ORG
QUANTITY ORG
LAW ORG
3 CARDINAL
LAW ORG
zero CARDINAL
CARDINAL ORG
Romanovsky PERSON
Alaska GPE
GPE ORG
Romanovsky PERSON
Bethel (GPE ORG
QUANTITY ORG
4 CARDINAL
QUANTITY ORG
QUANTITY ORG
Bethel GPE
LOC ORG
winter DATE
spring DATE
years DATE
Sarah PERSON
Ludwig PERSON
ORG ORG
Laura PERSON
Jardine PERSON
Jardine PERSON
John PERSON
Sarah PERSON
Ludwig PERSON
ORG ORG
Laura PERSON
Jardine PERSON
Jardine PERSON
John PERSON
1970s DATE
summer DATE
2015 DATE
Bethel (GPE ORG
Natali PERSON
CARDINAL ORG
QUANTITY ORG
1.5 CARDINAL
QUANTITY ORG
QUANTITY ORG
QUANTITY ORG
a year DATE
GPE ORG

Alaskan NORP
Alaska GPE
GPE ORG
Holmes PERSON
Siberia LOC
LOC ORG
Canada GPE
GPE ORG
CARDINAL ORG
thousands CARDINAL
CARDINAL ORG
CARDINAL ORG
thousands CARDINAL
CARDINAL ORG
years DATE
Correction (EVENT ORG
August DATE
23 CARDINAL
2017 DATE
1.5 CARDINAL
QUANTITY ORG
QUANTITY ORG
a year DATE
1.5 CARDINAL
QUANTITY ORG
QUANTITY ORG
QUANTITY ORG
August DATE
25 CARDINAL
2017 DATE
CARDINAL ORG
the (ORG) University ORG
ORG ORG
Alaska GPE
ORG) Fairbanks ORG
ORG ORG
Vladimir PERSON
Romanovsky PERSON
Ramonovsky PERSON
Alaska PERSON
GPE ORG
Horowitz PERSON
Redistricting PERSON
Berger PERSON
NC GPE
GPE ORG
Muhammadu PERSON
Buhari PERSON
Monday DATE
Lagos GPE

GPE ORG
Ogun PERSON
GPE ORG
Abuja (GPE ORG
14 DATE
Monday DATE
TIME ORG
Nigerians NORP
Nigerians NORP
BUHARI GPE
GPE ORG
GPE ORG
GPE ORG
GPE ORG
CARDINAL ORG
ORG ORG
HOUSE ORG
ORG ORG
MONDAY DATE
APRIL DATE
2020 DATE
1 CARDINAL
Fellow PERSON
Nigerians NORP
ORG ORG
2 CARDINAL
Sunday DATE
29th DATE
March DATE
2020 DATE
Lagos GPE
GPE ORG
Ogun PERSON
GPE ORG
ORG ORG
fourteen DATE
Monday DATE
March DATE
2020 DATE
3 CARDINAL
CARDINAL ORG
State ORG
ORG ORG
4 CARDINAL
CARDINAL ORG
CARDINAL ORG
5 CARDINAL
CARDINAL ORG
CARDINAL ORG
COVID-19 ORG

ORG ORG
6 CARDINAL
CARDINAL ORG
Coronavirus LOC
LOC ORG
COVID-19 PERSON
ORG ORG
ORG) Nigeria ORG
ORG ORG
Nigerian NORP
ORG ORG
NSCIA PERSON
ORG ORG
9 CARDINAL
CARDINAL ORG
10 CARDINAL
CARDINAL ORG
11 CARDINAL
CARDINAL ORG
14 DATE
12 CARDINAL
CARDINAL ORG
13 CARDINAL
CARDINAL ORG
92 (PERCENT) % PERCENT
1,500 CARDINAL
CARDINAL ORG
over 7,000 CARDINAL
CARDINAL ORG
Healthcare ORG
ORG ORG
NCDC ORG
ORG ORG
19 CARDINAL
CARDINAL ORG
15 CARDINAL
CARDINAL ORG
Abuja (GPE ORG
today DATE
CARDINAL ORG
1,000 CARDINAL
CARDINAL ORG
16 CARDINAL
CARDINAL ORG
CARDINAL ORG
State ORG
17 CARDINAL
CARDINAL ORG
weeks DATE
18 CARDINAL

CARDINAL ORG
19 CARDINAL
CARDINAL ORG
Lagos GPE
GPE ORG
Ogun PERSON
GPE ORG
ORG ORG
20 CARDINAL
CARDINAL ORG
CARDINAL ORG
weeks DATE
21 CARDINAL
CARDINAL ORG
COVID-19 ORG
ORG ORG
22 CARDINAL
CARDINAL ORG
Nigeria GPE
GPE ORG
23 CARDINAL
CARDINAL ORG
30th ORDINAL
March DATE
2020 DATE
CARDINAL ORG
780,000 CARDINAL
CARDINAL ORG
24 CARDINAL
CARDINAL ORG
Yesterday DATE
COVID-19 PERSON
CARDINAL ORG
CARDINAL ORG
eight CARDINAL
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
fifty CARDINAL
CARDINAL ORG
CARDINAL ORG
two CARDINAL
weeks DATE
25 CARDINAL
CARDINAL ORG
fourteen DATE
CARDINAL ORG
70,000 CARDINAL
CARDINAL ORG
26 CARDINAL

CARDINAL ORG
27 CARDINAL
CARDINAL ORG
Nigeria GPE
GPE ORG
131 CARDINAL
CARDINAL ORG
COVID-19 ORG
ORG ORG
12 CARDINAL
CARDINAL ORG
30th DATE
March DATE
2020 DATE
two CARDINAL
CARDINAL ORG
28 CARDINAL
CARDINAL ORG
TIME ORG
morning TIME
TIME ORG
Nigeria PERSON
GPE ORG
323 CARDINAL
CARDINAL ORG
twenty CARDINAL
CARDINAL ORG
CARDINAL ORG
GPE ORG
GPE ORG
54 (PERCENT) % PERCENT
Nigeria GPE
GPE ORG
FCT ORG
ORG ORG
two CARDINAL
CARDINAL ORG
71 (PERCENT) % PERCENT
Nigeria GPE
GPE ORG
29 CARDINAL
CARDINAL ORG
two CARDINAL
CARDINAL ORG
30 CARDINAL
CARDINAL ORG
Lagos GPE
GPE ORG
FCT ORG
31 CARDINAL

CARDINAL ORG
States GPE
GPE ORG
32 CARDINAL
CARDINAL ORG
33 CARDINAL
CARDINAL ORG
Nigerians NORP
34 CARDINAL
CARDINAL ORG
CARDINAL ORG
COVID-19 PERSON
ORG ORG
35 CARDINAL
CARDINAL ORG
COVID-19 ORG
ORG ORG
Today DATE
37 CARDINAL
CARDINAL ORG
2 CARDINAL
CARDINAL ORG
Nigerians NORP
second ORDINAL
38 CARDINAL
CARDINAL ORG
CARDINAL ORG
Report ORG
ORG ORG
ORG ORG
Lagos GPE
GPE ORG
Ogun PERSON
GPE ORG
FCT ORG
ORG ORG
14 DATE
11:59 TIME
TIME ORG
TIME ORG
Monday DATE
April DATE
2020 DATE
39 CARDINAL
CARDINAL ORG
Mosques PERSON
FAC ORG
Makkah PERSON
Madina GPE
GPE ORG

St. ORG
Peter PERSON
GPE ORG
GPE ORG
Notre GPE
FAC ORG
Paris GPE
GPE ORG
Easter (FAC ORG
CARDINAL ORG
CARDINAL ORG
10 CARDINAL
CARDINAL ORG
India GPE
GPE ORG
Italy GPE
GPE ORG
France GPE
GPE ORG
40 CARDINAL
CARDINAL ORG
41 CARDINAL
CARDINAL ORG
42 CARDINAL
CARDINAL ORG
45 CARDINAL
CARDINAL ORG
46 CARDINAL
CARDINAL ORG
47 CARDINAL
CARDINAL ORG
CARDINAL ORG
two CARDINAL
weeks DATE
48 CARDINAL
CARDINAL ORG
2.6 CARDINAL
CARDINAL ORG
CARDINAL ORG
3.6 CARDINAL
CARDINAL ORG
CARDINAL ORG
two CARDINAL
weeks DATE
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
49 CARDINAL
50 CARDINAL

CARDINAL ORG
Fellow PERSON
Nigerians NORP
51 CARDINAL
CARDINAL ORG
State ORG
ORG ORG
ORG ORG
52 CARDINAL
CARDINAL ORG
weeks DATE
ORG ORG
ORG ORG
54 CARDINAL
CARDINAL ORG
55 CARDINAL
CARDINAL ORG
ORG ORG
Digital ORG
ORG) Technology ORG
Transportation ORG
Interior ORG
Health (ORG ORG
ORG ORG
Nigerian NORP
COVID-19 ORG
ORG ORG
56 CARDINAL
CARDINAL ORG
National (ORG) Food (ORG) Security ORG
ORG ORG
ORG ORG
COVID-19 ORG
ORG ORG
our 2020 DATE
season DATE
ORG ORG
COVID-19 ORG
ORG ORG
Nigerians NORP
GPE ORG
GPE) Nigeria ORG
GPE ORG
COVID-19 PERSON
COVID-19 ORG
ORG ORG
99.99 CARDINAL
Plexiglas PERSON
American NORP
CARDINAL ORG

U.S. GPE
GPE ORG
Anthony PERSON
Chicago GPE
GPE ORG
YouTube ORG
ORG ORG
Twitter PERSON
CARDINAL ORG
CARDINAL ORG
26,000 CARDINAL
CARDINAL ORG
YouTube ORG
ORG ORG
Pennsylvania GPE
GPE ORG
Tom PERSON
Wolf PERSON
Achieve PERSON
Oxford (ORG) University ORG
ORG ORG
six CARDINAL
CARDINAL ORG
ILI ORG
LOC ORG
Oxford (ORG
two CARDINAL
decades DATE
CARDINAL ORG
CARDINAL ORG
1,600 CARDINAL
CARDINAL ORG
3 (PERCENT) percent PERCENT
ORG ORG
Cambridge GPE
ORG) University ORG
ORG ORG
Oxford ORG
ORG ORG
Influenza (ORG) Journal ORG
ORG ORG
two CARDINAL
CARDINAL ORG
two CARDINAL
CARDINAL ORG
Graphs PERSON
Austria PERSON
GPE ORG
CARDINAL ORG
first ORDINAL

10 CARDINAL
four CARDINAL
CARDINAL ORG
Austria GPE
GPE ORG
Germany GPE
GPE ORG
French NORP
1,000 (PERCENT) percent PERCENT
daily DATE
CARDINAL ORG
Spain GPE
GPE ORG
French NORP
Spain GPE
GPE ORG
zero CARDINAL
CARDINAL ORG
Europe LOC
LOC ORG
Spain GPE
GPE ORG
1,500 (PERCENT) percent PERCENT
three CARDINAL
months DATE
GPE ORG
1,500 (PERCENT) percent PERCENT
Europe LOC
LOC ORG
Belgium GPE
GPE ORG
British NORP
Italy GPE
GPE ORG
Ireland GPE
GPE ORG
Portugal GPE
GPE ORG
Israel GPE
GPE ORG
GPE ORG
Americans NORP
Germans NORP
Europe LOC
LOC ORG
U.S. GPE
GPE ORG
California GPE
GPE ORG
June DATE

300 (PERCENT) percent PERCENT
four CARDINAL
months DATE
Hawaii GPE
GPE ORG
CARDINAL ORG
U.S. GPE
GPE ORG
PERCENT ORG
1,000 (PERCENT) percent PERCENT
Texas GPE
GPE ORG
Georgia GPE
GPE ORG
n't PERSON
ORG ORG
CDC ORG
ORG ORG
Sweden GPE
GPE ORG
Georgia GPE
GPE ORG
n't GPE
COVID-19 ORG
ORG ORG
Nobel WORK_OF_ART
COVID ORG
Martin PERSON
Kulldorff PERSON
Harvard ORG
COVID ORG
ORG ORG
300 CARDINAL
years DATE
12 CARDINAL
CARDINAL ORG
Graphs PERSON
Mask PERSON
AdvertisementsOne ORG
February DATE
3 CARDINAL
2020 DATE
Iowa GPE
GPE ORG
first ORDINAL
fifty CARDINAL
CARDINAL ORG
American NORP
Twitter PERSON
TIME ORG

TIME ORG
TIME ORG
Iowa GPE
GPE ORG
CARDINAL ORG
first ORDINAL
Pete PERSON
Iowa GPE
GPE ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
Pete PERSON
Atlantic LOC
LOC ORG
February DATE
3 CARDINAL
2020 DATE
BURLINGTON ORG
GPE ORG
Iowa GPE
GPE ORG
Democratic NORP
Iowans NORP
hours TIME
TIME ORG
Joe PERSON
Biden PERSON
Elizabeth PERSON
Warren PERSON
Bernie PERSON
Dockendorff PERSON
tonight TIME
TIME ORG
62 CARDINAL
Danville PERSON
ORG ORG
January DATE
2020 DATE
Democrats NORP
Iowa GPE
GPE ORG
first ORDINAL
Dockendorff PERSON
Iowa GPE
GPE ORG
Eastern ORG
ORG ORG
ORG ORG
Twitter PERSON

Iowa GPE
GPE ORG
CARDINAL ORG
1 CARDINAL
CARDINAL ORG
Robby PERSON
Mook PERSON
Hillary PERSON
Clinton PERSON
2016 DATE
Iowa GPE
GPE ORG
Mook PERSON
Monday DATE
TIME ORG
TIME ORG
Iowa GPE
GPE ORG
Shadow PRODUCT
Mook PERSON
January DATE
29 CARDINAL
2020 DATE
Mook PERSON
Iowa GPE
GPE ORG
2018 DATE
Harvard ORG
night TIME
TIME ORG
Robby PERSON
Mook PERSON
Matt PERSON
Mook PERSON
2016 DATE
Hillary PERSON
Clinton PERSON
Rhodes PERSON
GPE ORG
Mitt PERSON
Romney PERSON
2012 DATE
2018 DATE
Russian NORP
Clinton PERSON
DNC ORG
ORG ORG
2016 DATE
Mook PERSON
February DATE

4 CARDINAL
2020 DATE
Des Moines Register PERSON
Clinton PERSON
Iowa GPE
GPE ORG
Nevada GPE
GPE ORG
February DATE
3 CARDINAL
2020 DATE
Iowa GPE
GPE ORG
Iowa GPE
GPE ORG
Democrats NORP
Hillary PERSON
Clinton PERSON
2016 DATE
Nevada GPE
ORG ORG
February DATE
4 CARDINAL
2020 DATE
Feb. DATE
22 DATE
2020 DATE
CARDINAL ORG
Jimmy PERSON
Hickey PERSON
Shadow Inc. ORG
ORG ORG
Tuesday DATE
Gerard PERSON
Krista PERSON
Davis PERSON
Clinton PERSON
2016 DATE
Shadow PRODUCT
Iowa GPE
GPE ORG
DNC ORG
Bernie PERSON
ORG ORG
2016 DATE
Bernie PERSON
2016 DATE
Iowa GPE
GPE ORG
2020 DATE

February DATE
3 CARDINAL
2020 DATE
ORG ORG
Democrats NORP
DNC ORG
ORG ORG
Bernie PERSON
Hillary PERSON
Clinton PERSON
the 2016 DATE
Iowa GPE
GPE ORG
Nevada GPE
GPE ORG
Feb. DATE
22 DATE
three CARDINAL
CARDINAL ORG
two CARDINAL
CARDINAL ORG
Iowa GPE
GPE ORG
Sanders ORG
ORG ORG
2016 DATE
CARDINAL ORG
December DATE
2017 DATE
ORG ORG
2020 DATE
Iowans NORP
2020 DATE
Iowa GPE
GPE ORG
Democratic NORP
decades DATE
2020 DATE
ORG ORG
ORG ORG
December DATE
2017 DATE
Iowa GPE
GPE ORG
five CARDINAL
decades DATE
DNC ORG
ORG ORG
Tom PERSON
Perez PERSON

2016 DATE
Jeff PERSON
Jeff PERSON
2016 DATE
CARDINAL ORG
Martin PERSON
Iowa GPE
GPE ORG
0.6 (PERCENT) percent PERCENT
Iowa GPE
GPE ORG
CARDINAL ORG
CARDINAL ORG
two CARDINAL
CARDINAL ORG
DNC ORG
ORG ORG
2016 DATE
CARDINAL ORG
Bernie PERSON
Hillary PERSON
Clinton PERSON
Sanders ORG
ORG ORG
Weaver ORG
ORG ORG
DNC ORG
ORG ORG
2020 DATE
Iowa GPE
GPE ORG
Iowa GPE
GPE ORG
Rumor # (ORG
CARDINAL ORG
3 CARDINAL
CARDINAL ORG
Iowa GPE
GPE ORG
Democratic NORP
ORG ORG
50 (PERCENT) percent PERCENT
5PM ORG
CARDINAL ORG
February DATE
4 CARDINAL
2020 DATE
ORG ORG
TIME ORG
morning TIME

TIME ORG
Iowa GPE
GPE ORG
25 (PERCENT) % PERCENT
ORG ORG
ORG ORG
three CARDINAL
CARDINAL ORG
1:14 TIME
TIME ORG
TIME ORG
TIME ORG
February DATE
4 CARDINAL
2020 DATE
NPR ORG
ORG ORG
Tuesday DATE
afternoon TIME
TIME ORG
February DATE
4 CARDINAL
2020 DATE
Democratic NORP
ORG ORG
5 CARDINAL
TIME ORG
TIME ORG
TIME ORG
February DATE
4 CARDINAL
2020 DATE
Tuesday DATE
February DATE
4 CARDINAL
2020 DATE
Troy PERSON
ORG ORG
NPR ORG
ORG ORG
Holly Christine PERSON
January DATE
2020 DATE
Asian NORP
ORG ORG
first ORDINAL
TIME ORG
evening TIME
TIME ORG
January DATE

31 DATE
2020 DATE
NPR ORG
Martin PERSON
February DATE
3 CARDINAL
2020 DATE
Iowa GPE
GPE ORG
Elesha GPE
Scott PERSON
GPE ORG
Democratic NORP
PIN ORG
ORG ORG
n't GPE
GPE) County Democratic Party Co - ORG
Tom PERSON
n't GPE
Courtney PERSON
TIME ORG
hours TIME
TIME ORG
NPR ORG
ORG ORG
Nevada GPE
ORG ORG
February DATE
22 DATE
2020 DATE
Iowa GPE
GPE ORG
TIME ORG
TIME ORG
Nevada GPE
GPE ORG
February DATE
2020 DATE
CARDINAL ORG
Iowa GPE
GPE ORG
2016 DATE
Iowa GPE
GPE ORG
Iowa GPE
GPE ORG
Twitter PERSON
2016 DATE
Iowa GPE
GPE ORG

Shadow PRODUCT
Iowa GPE
GPE ORG
Democratic NORP
ORG ORG
Iowa GPE
GPE ORG
2020 DATE
the day DATE
Invalid ORG
Email Something PERSON
Yesterday DATE
UK GPE
GPE ORG
Fathers (ORG) 4 ORG
ORG ORG
GPE ORG
ComRes ORG
ORG ORG
CARDINAL ORG
CARDINAL ORG
1000 CARDINAL
CARDINAL ORG
37 DATE
UK GPE
GPE ORG
2.3 CARDINAL
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
five CARDINAL
CARDINAL ORG
20 CARDINAL
22 DATE
CARDINAL ORG
third ORDINAL
CARDINAL ORG
32 DATE
CARDINAL ORG
Matt PERSON
Fathers (ORG) 4 ORG
ORG ORG
Telegraph ORG
ORG ORG
millions CARDINAL
CARDINAL ORG
Women (ORG) 's ORG
ComRes ORG
ORG ORG
CARDINAL ORG

CARDINAL ORG
six CARDINAL
CARDINAL ORG
17 DATE
a quarter DATE
27 DATE
2001 DATE
750,000 CARDINAL
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
every 15 minutes TIME
four CARDINAL
CARDINAL ORG
10 CARDINAL
CARDINAL ORG
CARDINAL ORG
five CARDINAL
CARDINAL ORG
UK GPE
GPE ORG
first ORDINAL
Today DATE
Nicola ORG
ORG ORG
Dandridge PERSON
CBE PERSON
ORG ORG
Chris PERSON
Dame Julia PERSON
first ORDINAL
100 CARDINAL
years DATE
5 CARDINAL
years DATE
David PERSON
Greg PERSON
Clark PERSON
OECD ORG
ORG ORG
Graduate PERSON
2007 DATE
87.5 (PERCENT) % PERCENT
UK GPE
GPE ORG
HE GPE
GPE ORG
4 CARDINAL
CARDINAL ORG
10 CARDINAL

CARDINAL ORG
Unfinished PERSON
months DATE
3 CARDINAL
CARDINAL ORG
firstly ORDINAL
2020 DATE
2009 DATE
first ORDINAL
2012 DATE
HEPI ORG
ORG ORG
BBC ORG
ORG ORG
ORG ORG
ComRes ORG
ORG ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
ORG ORG
ORG ORG
March DATE
Department (ORG ORG
ORG ORG
BIS ORG
ORG) Department ORG
ORG) DfE ORG
ORG ORG
Department (ORG ORG
ORG ORG
National (ORG) Student (ORG) Survey (ORG ORG
US GPE
GPE ORG
ORG) Authority ORG
ORG ORG
ORG ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
three CARDINAL
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
3 CARDINAL
years DATE
the 1992 DATE
2006 DATE
2015 DATE
PERCENT ORG

55 DATE
PERCENT ORG
45 DATE
22,000 MONEY
CBI ORG
ORG ORG
Skills (ORG ORG
47 (PERCENT) % PERCENT
Parliament ORG
ORG ORG
David PERSON
ORG ORG
English LANGUAGE
ORG ORG
ORG ORG
TEF ORG
TEF ORG
ORG ORG
TEF ORG
ORG ORG
REF ORG
ORG ORG
ORG) Agency ORG
ORG ORG
2010 DATE
ORG) Department ORG
Skills PRODUCT
CARDINAL ORG
TEF ORG
ORG ORG
UK GPE
GPE ORG
2015 DATE
ORG ORG
2:1 CARDINAL
QUANTITY ORG
QUANTITY ORG
2:1s CARDINAL
CARDINAL ORG
UK GPE
GPE ORG
300 (PERCENT) % PERCENT
1990s DATE
70 DATE
First ORDINAL
2:1 CARDINAL
CARDINAL ORG
CARDINAL ORG
5 CARDINAL
years DATE

PERCENT ORG
47 DATE
mid-1990s DATE
2013 DATE
14 CARDINAL
CARDINAL ORG
PERCENT ORG
second ORDINAL
ORG) Academy ORG
ORG ORG
CARDINAL ORG
CARDINAL ORG
ORG ORG
First ORDINAL
2:1 CARDINAL
CARDINAL ORG
2:2 CARDINAL
CARDINAL ORG
Third ORDINAL
GPA ORG
13 CARDINAL
CARDINAL ORG
2:1 CARDINAL
CARDINAL ORG
ORG ORG
ORG ORG
30.5 CARDINAL
TIME ORG
hours TIME
TIME ORG
14 CARDINAL
TIME ORG
hours TIME
TIME ORG
weekly DATE
Mass (ORG) Communications ORG
ORG ORG
ORG ORG
QUANTITY ORG
QUANTITY ORG
QUANTITY ORG
22 DATE
QUANTITY ORG
hours TIME
QUANTITY ORG
GPA ORG
ORG ORG
Robert PERSON
ORG ORG
UK GPE

GPE ORG
GPA ORG
ORG ORG
Higher PERSON
ORG) ORG
ORG ORG
2012 DATE
2020 DATE
CARDINAL ORG
2009 DATE
Les PERSON
Ebdon PERSON
2 CARDINAL
years DATE
years DATE
November DATE
2016 DATE
GPE ORG
GPE ORG
U.S. GPE
ORG ORG
Senate ORG
New (GPE) Hampshire ORG
GPE ORG
GPE ORG
four CARDINAL
CARDINAL ORG
GPE ORG
CARDINAL ORG
fifteen CARDINAL
CARDINAL ORG
U.S. GPE
GPE ORG
GPE ORG
Massachusetts GPE
GPE ORG
Vermont GPE
GPE ORG
Democrat NORP
GPE ORG
New (GPE) Hampshire ORG
GPE ORG
GPE ORG
ORG ORG
ORG ORG
House ORG
ORG ORG
November DATE
2016 DATE
6,540 CARDINAL

CARDINAL ORG
New (GPE) Hampshire ORG
GPE ORG
n't GPE
State ORG
ORG ORG
GPE ORG
New (GPE) Hampshire ORG
GPE ORG
60 CARDINAL
GPE ORG
6,540 CARDINAL
CARDINAL ORG
GPE ORG
January DATE
2017 DATE
August DATE
30 CARDINAL
2017 DATE
ten CARDINAL
months DATE
CARDINAL ORG
1,014 CARDINAL
CARDINAL ORG
6,540 CARDINAL
CARDINAL ORG
GPE ORG
5,526 CARDINAL
CARDINAL ORG
GPE ORG
5,526 CARDINAL
CARDINAL ORG
CARDINAL ORG
213 CARDINAL
CARDINAL ORG
New (GPE) Hampshire ORG
GPE ORG
5,313 CARDINAL
CARDINAL ORG
GPE ORG
New (GPE) Hampshire ORG
GPE ORG
New (GPE) Hampshire ORG
GPE ORG
State ORG
ORG ORG
5,513 CARDINAL
CARDINAL ORG
two CARDINAL
CARDINAL ORG

Republican NORP
NORP PERSON
U.S. GPE
GPE ORG
Kelly PERSON
Ayotte PERSON
Maggie PERSON
Hassan PERSON
Hassan PERSON
1,017 CARDINAL
CARDINAL ORG
5,313 CARDINAL
CARDINAL ORG
59.2 (PERCENT) percent PERCENT
Hassan PERSON
Democrat NORP
GPE ORG
GPE ORG
four CARDINAL
CARDINAL ORG
Hillary PERSON
Clinton PERSON
Clinton PERSON
GPE ORG
CARDINAL ORG
2,732 CARDINAL
CARDINAL ORG
74.8 (PERCENT) percent PERCENT
5,513 CARDINAL
CARDINAL ORG
Clinton PERSON
New (GPE) Hampshire ORG
GPE ORG
three CARDINAL
CARDINAL ORG
four CARDINAL
CARDINAL ORG
Senate ORG
ORG ORG
52 CARDINAL
CARDINAL ORG
48 CARDINAL
Republican NORP
Democrat NORP
Senate ORG
ORG ORG
53 DATE
TIME ORG
47 DATE
TIME ORG

Kris PERSON
State ORG
ORG ORG
Kansas GPE
GPE ORG
Arizona GPE
GPE ORG
10 CARDINAL
CARDINAL ORG
Obama PERSON
2012 DATE
2017 DATE
Trump PERSON
ORG ORG
Kansas GPE
GPE ORG
Miami GPE
GPE ORG
GPE ORG
Bruce PERSON
Mowry PERSON
Miami GPE
GPE ORG
GPE ORG
Biscayne PERSON
Miami GPE
GPE ORG
GPE ORG
400 CARDINAL
2018 DATE
Miami GPE
GPE ORG
GPE ORG
billions (MONEY
CARDINAL ORG
Harvey (PERSON) Ruvin PERSON
Miami GPE
GPE ORG
GPE ORG
Florida GPE
GPE ORG
Republican NORP
Democrats NORP
James PERSON
Republican NORP
Coral (ORG) Gables (ORG ORG
hundreds CARDINAL
CARDINAL ORG
years DATE
Cason PERSON

South LOC
LOC ORG
Florida GPE
LOC ORG
Vladimir PERSON
Putin PERSON
Europe LOC
LOC ORG
Elisa PERSON
Granato PERSON
first ORDINAL
Oxford ORG
ORG ORG
Europe LOC
LOC ORG
two CARDINAL
Elisa PERSON
TIME ORG
hours TIME
TIME ORG
Elisa PERSON
Granato PERSON
one CARDINAL
two CARDINAL
CARDINAL ORG
Four CARDINAL
CARDINAL ORG
four CARDINAL
CARDINAL ORG
Elisa PERSON
Granato PERSON
BBC ORG
ORG ORG
Elisa PERSON
four CARDINAL
CARDINAL ORG
CARDINAL ORG
99 CARDINAL
CARDINAL ORG
Indonesian NORP
780 CARDINAL
CARDINAL ORG
98.9 CARDINAL
CARDINAL ORG
4.1 CARDINAL
CARDINAL ORG
Covid-19 ORG
ORG ORG
One CARDINAL
CARDINAL ORG

Anglia GPE
Ruskin PERSON
ORG) University ORG
Cambridge GPE
GPE ORG
European NORP
ORG ORG
Vitamin PERSON
May DATE
CARDINAL ORG
100,000 CARDINAL
CARDINAL ORG
Asian NORP
Indonesian NORP
CARDINAL ORG
Prabowo GPE
April DATE
10 CARDINAL
CARDINAL ORG
CARDINAL ORG
five CARDINAL
CARDINAL ORG
British NORP
CARDINAL ORG
six CARDINAL
CARDINAL ORG
CARDINAL ORG
months DATE
Public Health England ORG
VITAMIN ORG
Asian NORP
NHS ORG
ORG ORG
African NORP
African NORP
south Asian NORP
a daily DATE
Vitamin PERSON
BAME PERSON
UK GPE
GPE ORG
William PERSON
University (ORG) of (ORG) Exeter ORG
ORG ORG
MailOnline ORG
ORG ORG
COVID-19 PERSON
ORG ORG
UK GPE
GPE ORG

European NORP
winter DATE
months DATE
African NORP
African NORP
south Asian NORP
Boris PERSON
Johnson PERSON
Tory PERSON
two CARDINAL
QUANTITY ORG
QUANTITY ORG
metre PERSON
QUANTITY ORG
Oliver PERSON
50 CARDINAL
CARDINAL ORG
Friday DATE
CARDINAL ORG
CARDINAL ORG
1,600 CARDINAL
CARDINAL ORG
months DATE
2.2million CARDINAL
CARDINAL ORG
England GPE
GPE ORG
100 CARDINAL
Vitamin PERSON
3p (PERCENT PERCENT
April DATE
Queen (ORG) Mary (ORG) University ORG
London GPE
GPE ORG
Vitamin PERSON
The Guardian (ORG ORG
TIME ORG
TIME ORG
ORG ORG
Surrey PERSON
ORG ORG
ORG ORG
British NORP
ORG ORG
Dr Lee PERSON
Anglia GPE
Ruskin PERSON
75 DATE
D. NORP
NORP PERSON

NHS ORG
ORG ORG
US GPE
GPE ORG
100 CARDINAL
CARDINAL ORG
Coronavirus PERSON
Vitamin PERSON
Dan PERSON
ORG ORG
November DATE
February DATE
3 CARDINAL
2021 DATE
Dan PERSON
November DATE
CARDINAL ORG
U.S. GPE
GPE ORG
Wisconsin GPE
GPE ORG
ORG ORG
WEC ORG
ORG ORG
234,000 CARDINAL
CARDINAL ORG
Kanye PERSON
ORG ORG
Joe PERSON
Biden PERSON
Milwaukee GPE
GPE ORG
Dane PERSON
GPE ORG
Biden PERSON
WEC ORG
ORG ORG
Election PERSON
November DATE
CARDINAL ORG
zero CARDINAL
CARDINAL ORG
CARDINAL ORG
4,270 CARDINAL
CARDINAL ORG
1,969,274 CARDINAL
CARDINAL ORG
0.2 (PERCENT) % PERCENT
November DATE
2016 DATE

years DATE
2.5 (PERCENT) % PERCENT
first ORDINAL
1,434 CARDINAL
CARDINAL ORG
0.05 (PERCENT) % PERCENT
1,045 CARDINAL
CARDINAL ORG
0.002 (PERCENT) % PERCENT
CARDINAL ORG
42 DATE
CARDINAL ORG
1.8 (PERCENT) % PERCENT
months DATE
Wisconsin GPE
GPE ORG
spring DATE
1,101,474 CARDINAL
CARDINAL ORG
78 (PERCENT) % PERCENT
November DATE
78 (PERCENT) % PERCENT
hundreds CARDINAL
CARDINAL ORG
CARDINAL ORG
thousands CARDINAL
CARDINAL ORG
Wisconsinites NORP
the April DATE
2016 DATE
2.5 (PERCENT) % PERCENT
1.4 (PERCENT) % PERCENT
November DATE
2020 DATE
April DATE
2020 DATE
1.8 (PERCENT) % PERCENT
0.2 (PERCENT) % PERCENT
November DATE
2018 DATE
Milwaukee GPE
GPE ORG
Tony PERSON
Scott PERSON
0.2 (PERCENT) % PERCENT
two CARDINAL
CARDINAL ORG
Republicans NORP
Donald PERSON
ORG ORG

2016 DATE
WEC ORG
ORG ORG
n't GPE
2018 DATE
2020 DATE
CARDINAL ORG
two CARDINAL
CARDINAL ORG
Democrat NORP
Republican NORP
Justine PERSON
23 CARDINAL
June DATE
Britain GPE
GPE ORG
Britain GPE
GPE ORG
Europe LOC
LOC ORG
Britain GPE
GPE ORG
Europe LOC
LOC ORG
Britain GPE
GPE ORG
Europe LOC
LOC ORG
CARDINAL ORG
half CARDINAL
CARDINAL ORG
Europe LOC
LOC ORG
CARDINAL ORG
CARDINAL ORG
four CARDINAL
CARDINAL ORG
CARDINAL ORG
British NORP
Europe LOC
LOC ORG
n't GPE
Britain GPE
GPE ORG
26.5bn MONEY
EU ORG
ORG ORG
years DATE
BMW ORG
ORG ORG

7,000 CARDINAL
CARDINAL ORG
Oxford ORG
GPE ORG
Birmingham GPE
GPE ORG
Swindon ORG
ORG ORG
UK GPE
GPE ORG
Europe LOC
LOC ORG
88 CARDINAL
EU ORG
ORG ORG
ORG) Bank ORG
ORG ORG
Europe LOC
LOC ORG
Europe LOC
LOC ORG
Europe LOC
LOC ORG
Erasmus PERSON
Britain GPE
GPE ORG
Europe LOC
LOC ORG
Britain GPE
GPE ORG
Europe LOC
LOC ORG
EU ORG
ORG ORG
French NORP
German NORP
NORP PERSON
10 CARDINAL
Europe LOC
LOC ORG
Europe LOC
LOC ORG
CARDINAL ORG
London GPE
GPE ORG
2007 DATE
Italy GPE
GPE ORG
Britain GPE
GPE ORG

European NORP
ORG ORG
EU ORG
ORG ORG
CARDINAL ORG
5,000 CARDINAL
CARDINAL ORG
EU ORG
ORG ORG
2010 DATE
European NORP
Britain GPE
GPE ORG
EU ORG
ORG ORG
ORG ORG
Nato ORG
ORG ORG
EU ORG
ORG ORG
Russia GPE
GPE ORG
Ukraine GPE
GPE ORG
LOC ORG
LOC ORG
LOC ORG
Africa LOC
LOC ORG
British NORP
West LOC
Africa LOC
GPE ORG
Europe LOC
LOC ORG
first ORDINAL
EU ORG
ORG ORG
Europe LOC
LOC ORG
Norway GPE
GPE ORG
Switzerland GPE
GPE ORG
Europe LOC
LOC ORG
Russia GPE
GPE ORG
Europe LOC
LOC ORG

EU ORG
ORG ORG
EU ORG
ORG ORG
thousands CARDINAL
CARDINAL ORG
Europe LOC
LOC ORG
Europe LOC
LOC ORG
Britain GPE
GPE ORG
British NORP
Europe LOC
LOC ORG
EU ORG
ORG ORG
790,000 CARDINAL
CARDINAL ORG
UK GPE
GPE ORG
2030 DATE
ORG ORG
Britain GPE
GPE ORG
Europe LOC
LOC ORG
Europe LOC
LOC ORG
Europe LOC
LOC ORG
Britain GPE
GPE ORG
Europe LOC
LOC ORG
Europe LOC
LOC ORG
British NORP
ORG ORG
Britain GPE
Europe LOC
LOC ORG
Biden PERSON
Hayes PERSON
GEORGIA GPE
GPE ORG
Donald PERSON
2015 DATE
Muslims NORP
GPE ORG

Europe LOC
LOC ORG
ISIS ORG
ORG ORG
weekly DATE
hundreds CARDINAL
CARDINAL ORG
85 DATE
CARDINAL ORG
Paris GPE
GPE ORG
German NORP
NORP PERSON
Christian NORP
Islam ORG
Islam ORG
ORG ORG
GPE ORG
Georgia GPE
GPE ORG
Muslim NORP
Jason PERSON
Wednesday DATE
Spencer PERSON
Islamic NORP
Spencer PERSON
Islamic NORP
GPE ORG
GPE ORG
Georgia GPE
GPE ORG
Spencer PERSON
WSB ORG
ORG ORG
Atlanta GPE
GPE ORG
LAW ORG
Islam ORG
ORG ORG
Christians NORP
Bible WORK_OF_ART
Quran PERSON
GPE ORG
Quran PERSON
GPE ORG
Allah (GPE ORG
Messenger PERSON
Islam NORP
Jews NORP
Christians NORP

Jizya PERSON
LOC ORG
Allah (GPE ORG
Messenger PERSON
Islam NORP
Jews NORP
Christians NORP
Jizya PERSON
LOC ORG
Quran PERSON
GPE ORG
Allah (ORG ORG
Christian NORP
ORG ORG
GPE ORG
Georgia GPE
GPE ORG
Islam ORG
France GPE
GPE ORG
Belgium GPE
GPE ORG
Italy GPE
GPE ORG
Spain GPE
GPE ORG
Switzerland GPE
GPE ORG
American NORP
Trump PERSON
American NORP
GEORGIA PERSON
GPE ORG
Control (ORG ORG
ORG ORG
Bill PERSON
41 CARDINAL
CARDINAL ORG
ORG ORG
House ORG
ORG ORG
Nigerians NORP
ORG ORG
House ORG
ORG ORG
ORG ORG
Bill PERSON
ORG ORG
second ORDINAL
82 CARDINAL

CARDINAL ORG
House ORG
ORG ORG
Femi Gbajabiamila ORG
ORG ORG
NCDC ORG
ORG ORG
NCDC ORG
ORG ORG
Nigeria GPE
GPE ORG
Tuesday DATE
NCDC ORG
ORG ORG
NCDC ORG
ORG ORG
3 CARDINAL
CARDINAL ORG
Nigeria PERSON
GPE ORG
Centre for Democracy and Development , Civil (ORG) ORG
Advocacy PERSON
Say No Campaign ORG
Amnesty ORG
YIAGA ORG
GPE ORG
Africa LOC
GPE ORG
Agenda PERSON
ORG ORG
Global (ORG) Rights (ORG ORG
African NORP
Alert PERSON
Women (ORG) ORG
ORG ORG
ORG) Community ORG
ORG) Centre ORG
ORG) Centre ORG
Advocacy PERSON
Concerned (ORG) Nigerians (ORG ORG
ORG ORG
Education ORG
ORG ORG
Vaccine PERSON
Dinidari PERSON
ORG ORG
Albino PERSON
ORG ORG
ORG ORG
ORG ORG

Nigeria GPE
GPE ORG
Dorothy PERSON
ORG) ORG
ORG) Foundation ORG
ORG ORG
Raising (ORG) WORK_OF_ART
ORG ORG
Youths PERSON
ORG ORG
Adopt A Goal For Development Initiative , Coalition in Defence of
Nigerian Democracy and Constitution WORK_OF_ART
GPE ORG
House ORG
ORG ORG
Molluma PERSON
Medico PERSON
Albino PERSON
ORG ORG
ORG ORG
ORG ORG
Nigeria GPE
GPE ORG
GPE ORG
Africa LOC
LOC ORG
Youths PERSON
Motion (ORG ORG
ORG ORG
ORG ORG
Silverchip Fox PERSON
Tuesday DATE
Gbajabiamila PERSON
Nigerians NORP
Nigerian NORP
House ORG
ORG ORG
Tesco PERSON
ORG ORG
119 CARDINAL
CARDINAL ORG
Robin PERSON
Williams PERSON
ORG ORG
16 CARDINAL
CARDINAL ORG
CARDINAL ORG
24 CARDINAL
12 CARDINAL
months DATE

Britain GPE
GPE ORG
Europe LOC
LOC ORG
Young PERSON
Generation A PRODUCT
LOC ORG
LOC ORG
QUANTITY ORG
2 CARDINAL
QUANTITY ORG
QUANTITY ORG
CNN ORG
ORG ORG
Monday DATE
ORG) Sciences ORG
ORG ORG
University (ORG ORG
ORG ORG
Colorado GPE
ORG ORG
Steve PERSON
Nerem PERSON
1993 DATE
1992 DATE
2014 DATE
QUANTITY ORG
QUANTITY ORG
2.8 CARDINAL
QUANTITY ORG
QUANTITY ORG
25 CARDINAL
years DATE
CARDINAL ORG
3 CARDINAL
CARDINAL ORG
0.1 CARDINAL
QUANTITY ORG
QUANTITY ORG
Leon PERSON
Young PERSON
GPE ORG
three CARDINAL
months DATE
75 (PERCENT) percent PERCENT
12,000 MONEY
49,943 MONEY
2011 DATE
12 CARDINAL
34 CARDINAL

122 CARDINAL
Young (PERSON WORK_OF_ART
2012 DATE
Young PERSON
seven CARDINAL
CARDINAL ORG
seven CARDINAL
Wisconsin GPE
GPE ORG
10 CARDINAL
CARDINAL ORG
Milwaukee GPE
ORG) Board ORG
ORG ORG
Republicans NORP
Legislature ORG
Alberta PERSON
Joe PERSON
15,000 MONEY
51,000 MONEY
\$ (MONEY MONEY
6.5 CARDINAL
Legislature ORG
ORG ORG
Milwaukee GPE
ORG) Board ORG
ORG ORG
Madison PERSON
Joyce PERSON
ORG ORG
16 CARDINAL
years DATE
Mike PERSON
232,000 MONEY
Joyce PERSON
ORG ORG
annual DATE
430,000 MONEY
ORG ORG
Capitol FAC
FAC ORG
ORG ORG
McCabe (ORG) 's ORG
McCabe (ORG ORG
Capitol ORG
Michigan GPE
GPE ORG
Michigan GPE
GPE ORG
Alcona GPE

GPE ORG
the 73rd DATE
1998 DATE
ORG ORG
Alcona GPE
GPE ORG
Alpena ORG
GPE ORG
Montmorency PERSON
Oscoda ORG
TB ORG
ORG ORG
Michigan GPE
ORG) Department ORG
ORG ORG
Michigan GPE
GPE ORG
Fox PERSON
ORG ORG
GPE ORG
Ala. GPE
GPE ORG
State ORG
Veterinarian Nancy PERSON
Barr PERSON
ORG ORG
5 CARDINAL
Muslim NORP
Yemen GPE
GPE ORG
Hunger (ORG) ORG
COVID-19 PERSON
ORG) & (ORG) Poverty ORG
ORG ORG
2020 DATE
two CARDINAL
years DATE
2018 DATE
2020 DATE
85,000 CARDINAL
CARDINAL ORG
Yemen GPE
GPE ORG
2018 DATE
CARDINAL ORG
UK GPE
GPE ORG
5 CARDINAL
CARDINAL ORG
CARDINAL ORG

Yemen GPE
GPE ORG
2018 DATE
2020 DATE
UK GPE
GPE ORG
CARDINAL ORG
CARDINAL ORG
5 CARDINAL
CARDINAL ORG
CARDINAL ORG
Yemen GPE
GPE ORG
2020 DATE
COVID-19 PERSON
Muslims NORP
Madina GPE
GPE ORG
COVID-19 PERSON
ORG ORG
Helle PERSON
Schmidt PERSON
Save (ORG) the (ORG) Children (ORG) International ORG
Yemen GPE
GPE ORG
ORG) & (ORG ORG
ORG ORG
COVID-19 PERSON
ORG ORG
2018 DATE
four CARDINAL
CARDINAL ORG
CARDINAL ORG
Save (ORG) ORG
ORG ORG
Wednesday DATE
CARDINAL ORG
CARDINAL ORG
almost 2 CARDINAL
years DATE
Yemen GPE
GPE ORG
CARDINAL ORG
Yemen GPE
GPE ORG
CARDINAL ORG
Yemen GPE
GPE ORG
Schmidt PERSON
Telegraph ORG

FAC ORG
UK GPE
GPE ORG
2018 DATE
5.2 CARDINAL
CARDINAL ORG
CARDINAL ORG
Yemen GPE
GPE ORG
Britain GPE
GPE ORG
NGO ORG
ORG ORG
2018 DATE
CARDINAL ORG
CARDINAL ORG
10 CARDINAL
CARDINAL ORG
Yemen GPE
GPE ORG
Yemen GPE
GPE ORG
CARDINAL ORG
CARDINAL ORG
85,000 CARDINAL
CARDINAL ORG
Guardian ORG
CARDINAL ORG
CARDINAL ORG
five CARDINAL
CARDINAL ORG
CARDINAL ORG
Yemen GPE
GPE ORG
Yemen GPE
GPE ORG
Yemen GPE
GPE ORG
Muslim NORP
Arab NORP
Saudi NORP
GPE ORG
Muslim NORP
Ummah PERSON
Muhammad PERSON
TIME ORG
20 CARDINAL
TIME ORG
hours TIME
TIME ORG

Friday DATE
Breonna PERSON
Taylor PERSON
Taylor PERSON
today DATE
Taylor PERSON
Taylor PERSON
a months DATE
months DATE
Taylor PERSON
ORG ORG
Taylor PERSON
Taylor PERSON
Officer Brett PERSON
Hankison PERSON
Taylor PERSON
Kenneth PERSON
CARDINAL ORG
Taylor PERSON
Taylor PERSON
TIME ORG
TIME ORG
TIME ORG
TIME ORG
TIME ORG
TIME ORG
TIME ORG
15 CARDINAL
TIME ORG
seconds TIME
TIME ORG
Louisville GPE
GPE ORG
Kentucky GPE
GPE ORG
Shawn PERSON
Taylor PERSON
third ORDINAL
45 DATE
TIME ORG
seconds TIME
TIME ORG
TIME ORG
TIME ORG
Walker (ORG ORG
CARDINAL ORG
Taylor PERSON
4 CARDINAL
CARDINAL ORG
n't GPE
Breonna PERSON

Taylor PERSON
Taylor PERSON
Louisville GPE
GPE ORG
March DATE
13 CARDINAL
26 CARDINAL
five CARDINAL
CARDINAL ORG
Cameron PERSON
ORG ORG
two CARDINAL
CARDINAL ORG
Taylor PERSON
Taylor PERSON
Officer Brett PERSON
Hankison PERSON
three CARDINAL
CARDINAL ORG
American NORP
Taylor PERSON
Jason PERSON
Taylor PERSON
Breonna PERSON
Taylor PERSON
SHE ORG
ORG ORG
BILL PERSON
ORG ORG
ORG ORG
ORG ORG
WILL LIKELY USE PERSON
EXPERIMENTAL ORG
first ORDINAL
COVID-19 PERSON
ORG ORG
n't GPE
COVID-19 PERSON
ORG ORG
RNA ORG
ORG ORG
COVID-19 ORG
ORG ORG
n't ORG
Moderna PERSON
GPE ORG
RNA ORG
ORG ORG
thirty CARDINAL
years DATE

5 CARDINAL
CARDINAL ORG
two CARDINAL
CARDINAL ORG
RNA ORG
ORG ORG
Coronavirus LOC
LOC ORG
U.S. GPE
GPE ORG
Chicago GPE
GPE ORG
hundreds CARDINAL
Americans NORP
Bill PERSON
WHO ORG
ORG ORG
years DATE
Gates ORG
ORG ORG
7 (CARDINAL WORK_OF_ART
CARDINAL ORG
RNA ORG
ORG ORG
Gates ORG
ORG ORG
RNA ORG
ORG ORG
two CARDINAL
CARDINAL ORG
COVID-19 ORG
ORG ORG
QUANTITY ORG
QUANTITY ORG
two CARDINAL
CARDINAL ORG
RNA ORG
ORG ORG
CARDINAL ORG
RNA ORG
ORG ORG
CEPI ORG
ORG ORG
RNA ORG
ORG ORG
CARDINAL ORG
COVID ORG
first ORDINAL
RNA ORG
ORG ORG

Moderna PERSON
GPE ORG
RNA ORG
ORG ORG
RNA ORG
ORG ORG
RNA ORG
ORG ORG
n't GPE
n't GPE
RNA ORG
ORG ORG
COVID ORG
ORG ORG
first ORDINAL
RNA ORG
ORG ORG
first ORDINAL
Bill PERSON
ORG ORG
CARDINAL ORG
Donald PERSON
Cabinet ORG
Republican NORP
Trump ORG
ORG ORG
Hillary PERSON
Clinton PERSON
Gingrich PERSON
two CARDINAL
years DATE
Trump ORG
ORG ORG
four CARDINAL
years DATE
the Electoral (ORG) College ORG
2012 DATE
Mitt PERSON
Romney PERSON
Barack PERSON
Obama PERSON
Trump PERSON
ORG ORG
April DATE
Ben PERSON
Carson PERSON
Gingrich PERSON
Trumpsters ORG
ORG ORG
Trump ORG

ORG ORG
2014 DATE
Gingrich PERSON
National (ORG) Popular (ORG) Vote (ORG ORG
11 CARDINAL
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
12 CARDINAL
CARDINAL ORG
Americans NORP
two CARDINAL
years DATE
Gingrich PERSON
Gingrich PERSON
Americans NORP
Gingrich PERSON
314 CARDINAL
CARDINAL ORG
CARDINAL ORG
Earth LOC
LOC ORG
Gingrich PERSON
America GPE
GPE ORG
Clinton PERSON
Trump PERSON
ORG ORG
60 CARDINAL
CARDINAL ORG
CARDINAL ORG
59.8 CARDINAL
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
fifth ORDINAL
CARDINAL ORG
Americans NORP
n't ORG
Gingrich PERSON
Trump ORG
ORG ORG
CARDINAL ORG
FAC ORG
FAC ORG
House ORG
FAC ORG
Trump ORG

ORG ORG
2012 DATE
GPE ORG
Newt PERSON
RT (ORG) - (ORG
ORG ORG
Torsten PERSON
Konstantin PERSON
Demeter PERSON
PCR ORG
ORG ORG
Unfounded " Test PERSON
COVID-19 ORG
ORG ORG
March DATE
16 CARDINAL
2020 DATE
WHO ORG
ORG ORG
Dr Tedros PERSON
Reuters ORG
ORG ORG
BBC ORG
ORG ORG
3 CARDINAL
CARDINAL ORG
May DATE
German NORP
NORP PERSON
PCR ORG
ORG ORG
Walter PERSON
Lippmann PERSON
two CARDINAL
CARDINAL ORG
Pulitzer PERSON
Kary PERSON
1993 DATE
74 DATE
PCR ORG
ORG ORG
PCR ORG
ORG ORG
millions CARDINAL
PCR ORG
ORG ORG
Gina PERSON
2007 DATE
ORG ORG
Faith PERSON

PCR ORG
ORG ORG
COVID-19 ORG
Australian NORP
Sanjaya PERSON
ABC ORG
ORG ORG
decades DATE
COVID-19 PERSON
n't ORG
Jessica PERSON
Watson PERSON
Bristol ORG
ORG) University ORG
ORG ORG
British NORP
ORG ORG
COVID-19 PERSON
ORG ORG
COVID-19 PERSON
Watson PERSON
PCR ORG
ORG ORG
PCR ORG
ORG ORG
PCR ORG
ORG ORG
COVID-19 PERSON
ORG ORG
Thomas PERSON
ORG) Department ORG
ORG ORG
German NORP
COVID-19 PERSON
ORG ORG
COVID-19 PERSON
Watson PERSON
Watson PERSON
Watson PERSON
COVID-19 PERSON
COVID-19 PERSON
ORG ORG
n't PERSON
June DATE
2nd DATE
RNA ORG
ORG ORG
first ORDINAL
RNA ORG
ORG ORG

PCR ORG
ORG ORG
Medical Virology ORG
1986 DATE
9 CARDINAL
CARDINAL ORG
Luc PERSON
Nobel WORK_OF_ART
Marie PERSON
100 CARDINAL
CARDINAL ORG
1898 DATE
RNA ORG
ORG ORG
PCR ORG
ORG ORG
PCR ORG
ORG ORG
RNA ORG
ORG ORG
RNA ORG
ORG ORG
NB ORG
ORG ORG
Malik PERSON
Nature (WORK_OF_ART) Medicine (WORK_OF_ART WORK_OF_ART)
March DATE
2020 DATE
Malik PERSON
12 CARDINAL
2020 DATE
2 CARDINAL
CARDINAL ORG
Myung PERSON
Han NORP
ORG ORG
Patient GPE
Korea GPE
GPE ORG
COVID-19 ORG
ORG ORG
Osong PERSON
February DATE
2020 DATE
Myung PERSON
Han NORP
6 CARDINAL
2020 DATE
3 CARDINAL
CARDINAL ORG

Wan PERSON
ORG ORG
Korea GPE
GPE ORG
Journal ORG
February DATE
24 CARDINAL
2020 DATE
March DATE
19 CARDINAL
2020 DATE
4 CARDINAL
CARDINAL ORG
Coronavirus PERSON
Pneumonia GPE
China GPE
GPE ORG
2019 DATE
February DATE
20 CARDINAL
2020 DATE
Wenjie PERSON
Tan PERSON
March DATE
18 CARDINAL
2020 DATE
four CARDINAL
CARDINAL ORG
2020 DATE
Dr Charles PERSON
2001 DATE
Calisher PERSON
3 CARDINAL
Dr PERSON
CARDINAL ORG
4 CARDINAL
RNA ORG
ORG ORG
PCR ORG
ORG ORG
RNA ORG
ORG ORG
COVID-19 ORG
ORG ORG
CARDINAL ORG
four CARDINAL
CARDINAL ORG
Koch PERSON
Amory ORG
Devereux ORG

ORG ORG
Rosemary PERSON
OffGuardian NORP
CARDINAL ORG
Nature WORK_OF_ART
GPE ORG
May DATE
third ORDINAL
German NORP
NORP PERSON
Alexander PERSON
Hartmut PERSON
Hengel PERSON
Ralf PERSON
German NORP
ORG ORG
Thomas PERSON
Ulrich PERSON
Charité Berlin PERSON
Bornkamm PERSON
RNA ORG
ORG ORG
Nobel WORK_OF_ART
Barbara PERSON
1983 DATE
Christian (ORG) ORG
Germany GPE
GPE ORG
COVID-19 ORG
ORG ORG
German NORP
NORP PERSON
PCR ORG
ORG ORG
first ORDINAL
WHO ORG
ORG ORG
n't PERSON
June DATE
18 CARDINAL
2020 DATE
months DATE
Berlin GPE
GPE ORG
Charité NORP
n't GPE
Corman (NORP ORG
RNA ORG
ORG ORG
Roche PERSON

ORG ORG
Penzberg PERSON
GPE ORG
Germany GPE
GPE ORG
RNA ORG
ORG ORG
mini kit QIAGEN PERSON
ORG ORG
Hilden GPE
GPE ORG
Germany GPE
GPE ORG
RNA ORG
ORG ORG
January DATE
23 CARDINAL
2020 DATE
n't GPE
two CARDINAL
CARDINAL ORG
PCR ORG
ORG ORG
February DATE
China GPE
GPE ORG
Guangdong GPE
GPE ORG
GPE ORG
COVID-19 ORG
ORG ORG
ORG ORG
29 CARDINAL
CARDINAL ORG
610 CARDINAL
CARDINAL ORG
Wuhan GPE
GPE ORG
3 CARDINAL
CARDINAL ORG
6 CARDINAL
CARDINAL ORG
A third CARDINAL
Singapore GPE
GPE ORG
18 CARDINAL
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
five CARDINAL

CARDINAL ORG
CARDINAL ORG
Wang PERSON
Chen PERSON
Chinese NORP
ORG ORG
February DATE
PCR ORG
ORG ORG
CARDINAL ORG
30 CARDINAL
CARDINAL ORG
CARDINAL ORG
50 CARDINAL
CARDINAL ORG
Sin PERSON
Lee PERSON
ORG ORG
WHO ORG
ORG ORG
Anthony PERSON
March DATE
22 DATE
2020 DATE
RNA ORG
ORG ORG
PCR ORG
ORG ORG
PPV ORG
ORG ORG
PPV ORG
ORG ORG
two CARDINAL
CARDINAL ORG
95 (PERCENT) % PERCENT
5 CARDINAL
CARDINAL ORG
100 CARDINAL
CARDINAL ORG
PPV ORG
ORG ORG
June DATE
12 CARDINAL
2020 DATE
Deutsches PERSON
PPV ORG
ORG ORG
three CARDINAL
CARDINAL ORG
second ORDINAL

Jessica PERSON
Watson PERSON
95 (PERCENT) % PERCENT
Deutsches PERSON
PPV ORG
ORG ORG
CARDINAL ORG
three CARDINAL
CARDINAL ORG
3 (PERCENT) % PERCENT
PPV ORG
ORG ORG
PERCENT ORG
30 (PERCENT) percent PERCENT
70 (PERCENT) percent PERCENT
20 (PERCENT) percent PERCENT
PERCENT GPE
PPV ORG
ORG ORG
78 (PERCENT) percent PERCENT
22 (PERCENT) percent PERCENT
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
2 CARDINAL
CARDINAL ORG
CARDINAL ORG
CDC ORG
ORG ORG
FDA ORG
ORG ORG
CDC ORG
ORG ORG
2019 DATE
2019 DATE
March DATE
30 CARDINAL
2020 DATE
RNA ORG
ORG ORG
2019 DATE
nCoV ORG
FDA ORG
ORG ORG
PCR ORG
ORG ORG
Altona PERSON
ORG ORG
LightMix ORG
TIB ORG

Molbiol PERSON
ORG ORG
Roche ORG
ORG ORG
PCR ORG
ORG ORG
Roche ORG
ORG ORG
ORG ORG
n't GPE
millions CARDINAL
CARDINAL ORG
CARDINAL ORG
millions CARDINAL
CARDINAL ORG
CDC ORG
ORG ORG
WHO ORG
ORG ORG
FDA ORG
ORG ORG
ORG ORG
Jon PERSON
RNA ORG
ORG ORG
PCR ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
CARDINAL ORG
PCR ORG
ORG ORG
29 CARDINAL
CARDINAL ORG
86 DATE
199 CARDINAL
CARDINAL ORG
272 CARDINAL
CARDINAL ORG
293 CARDINAL
CARDINAL ORG
un ORG
ORG ORG
Viviane PRODUCT
RT (ORG ORG
ORG ORG
Asian NORP
Asian NORP

April DATE
WHO ORG
ORG ORG
Asian NORP
Roche ORG
ORG ORG
TIB ORG
Molbiol PERSON
ORG ORG
Cq PERSON
PCR ORG
ORG ORG
35 DATE
45 CARDINAL
CARDINAL ORG
Cq PERSON
CARDINAL ORG
CARDINAL ORG
40 DATE
CARDINAL ORG
ORG ORG
MIQE PERSON
ORG ORG
ORG ORG
PCR PERSON
ORG ORG
NORP PERSON
Kary PERSON
CARDINAL ORG
CARDINAL ORG
40 DATE
CARDINAL ORG
ORG ORG
ORG ORG
Stephen GPE
PCR PERSON
ORG ORG
A (WORK_OF_ART) - (WORK_OF_ART) Z WORK_OF_ART
WORK_OF_ART ORG
NORP PERSON
Bustin PRODUCT
Cq PERSON
20s DATE
30s DATE
Cq PERSON
35 DATE
GPE ORG
PCR ORG
ORG ORG
RNA ORG

ORG ORG
RNA ORG
ORG ORG
Reverse PERSON
Jessica PERSON
Toronto GPE
GPE ORG
two CARDINAL
CARDINAL ORG
2019 DATE
Stephen PERSON
PCR ORG
ORG ORG
RNA ORG
ORG ORG
RNA ORG
ORG ORG
10 CARDINAL
CARDINAL ORG
PCR ORG
ORG ORG
COVID-19 PERSON
NB ORG
ORG ORG
WHO ORG
ORG ORG
ORG ORG
British NORP
ORG ORG
2010 DATE
WHO ORG
ORG ORG
CDC ORG
ORG ORG
these RT (ORG) - (ORG
ORG ORG
Fatal (WORK_OF_ART) Therapie WORK_OF_ART
ORG ORG
COVID-19 ORG
ORG ORG
1 CARDINAL
ORG) Sensitivity ORG
ORG ORG
2 CARDINAL
CARDINAL ORG
Thomas PERSON
March DATE
6 CARDINAL
2020 DATE
3 CARDINAL

CARDINAL ORG
Martin Enserink PERSON
Science (ORG) ORG
July DATE
6 CARDINAL
2001 DATE
24 CARDINAL
CARDINAL ORG
4 CARDINAL
CARDINAL ORG
Charles PERSON
May DATE
10 CARDINAL
2020 DATE
5 CARDINAL
CARDINAL ORG
Torsten Engelbrecht PERSON
Hamburg GPE
GPE ORG
Germany GPE
GPE ORG
2006 DATE
ORG ORG
Klaus PERSON
Kohnlein PERSON
2009 DATE
German NORP
NORP PERSON
Rubikon PERSON
Süddeutsche ORG
ORG) Zeitung ORG
Financial (ORG) ORG
ORG ORG
Konstantin PERSON
Demeter PERSON
Torsten PERSON
ORG ORG
Rubikon PERSON
Swiss GPE
Italian NORP

Application de la fonction précédente à la colonne "title" avec la méthode apply

```
# Définir une fonction pour ajouter le nom de l'entité à chaque entité  
nommée dans la colonne de texte  
def add_entity_name(text):  
    doc = nlp(text)  
    # Créer une liste pour stocker les nouveaux tokens  
    nouveaux_tokens = []
```

```

    # Parcourir les tokens et ajouter des informations selon le type
    d'entité
    for token in doc:
        if token.ent_type_:
            # Ajouter le nom de l'entité (type d'entité) à côté de
            l'entité
            nouveaux_tokens.append(f"{token.text}
            ({token.ent_type_})")
        else:
            nouveaux_tokens.append(token.text)

    # Reconstruire le texte avec les informations ajoutées
    nouveau_texte = " ".join(nouveaux_tokens)
    return nouveau_texte

#Application de la fonction à la colonne "titre_text"
dftrain["entities"] = dftrain["text_title"].apply(extract_entities)
#print(dftrain["entities"])
dftrain['text_title'].fillna('', inplace=True)
dftrain['text_title'] = dftrain['text_title'].apply(add_entity_name)

```

On scinde les données de la colonne "title" en jeu d'apprentissage et jeu de test

```

X=dftrain['text_title']
X_train,X_test,y_train,y_test=train_test_split(X,y,test_size =
0.2,random_state=8)
print("X_train is \n",X_train.shape)
print("y_train is \n",y_train.shape)
print("X_test is \n",X_test.shape)
print("y_test is \n",y_test.shape)

X_train is
(675,)
y_train is
(675,)
X_test is
(169,)
y_test is
(169,)

```

Ici, c'est une étape importante, on va tester différents classifieurs, pour chacun des classifieurs, on va appliquer le prétraitement + Vectorisation TfIdf, et on applique une cross_val_score avec un Kfold de 10 fois, par la suite on stocke dans une liste all_results la moyenne des accuracy + l'écart type et on la trie par ordre décroissant de moyenne d'accuracy et d'écart type. on remarque que les 2 meilleurs sont SVM et RF qu'on va sélectionner pour leur appliquer le GridSearch sur les paramètres des prétraitements + leurs hyperparamètres pour pouvoir choisir le meilleur.

```

np.random.seed(42) # Set the random seed for NumPy

```

```

score = 'accuracy'
seed = 7
allresults = []
results = []
names = []

# Liste des modèles à tester
models = [
    ('MultinomialNB', MultinomialNB()),
    ('LogisticRegression', LogisticRegression(random_state=42))
]

models.append(('KNN', KNeighborsClassifier()))
models.append(('CART', DecisionTreeClassifier(random_state=42)))
models.append(('RF', RandomForestClassifier(random_state=42)))
models.append(('SVM', SVC(random_state=42)))

# Création d'un pipeline pour chaque modèle
pipelines = []
for name,model in models:
    pipeline = Pipeline([
        ('normalize', TextNormalizer()),
        ('tfidf', TfidfVectorizer()),
        (name,model)
    ])
    pipelines.append((name,pipeline))
    #pipeline.fit(X_train,y_train)
all_results=[]
scores=[]
for p in pipelines:
    print(p[1])
    # cross validation en 10 fois
    kfold = KFold(n_splits=10,random_state=seed,shuffle=True)

    # print ("Evaluation de ",p)
    start_time = time.time()
    # application de la classification
    cv_results = cross_val_score(p[1],X_train,y_train, cv=kfold,
scoring=score)
    #print("Pour le classifieur",p[0],"on a un score
de",cv_results.mean(),"et un écart type de",cv_results.std())
    scores.append(cv_results)

    all_results.append((p[0],cv_results.mean(),cv_results.std()))
    end_time = time.time()

```

```

print("all resultats", all_results)

all_results = sorted(all_results, key=lambda x: (-x[1], -x[2]))
print("all resultats", all_results)
    # affichage des résultats
#print ('\nLe meilleur resultat : ',max(results))

X_train (675,)
y_train (675,)
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('MultinomialNB', MultinomialNB())])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('LogisticRegression',
LogisticRegression(random_state=42))])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('KNN', KNeighborsClassifier())])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('CART', DecisionTreeClassifier(random_state=42))])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('RF', RandomForestClassifier(random_state=42))])
Pipeline(steps=[('normalize', TextNormalizer()), ('tfidf',
TfidfVectorizer()),
                ('SVM', SVC(random_state=42))])
all resultats [('MultinomialNB', 0.7879719051799824,
0.08755580534737224), ('LogisticRegression', 0.7852941176470589,
0.04977379242498178), ('KNN', 0.6605575065847236,
0.059506638746038246), ('CART', 0.8237269534679544,
0.06278583197362432), ('RF', 0.902194907813872, 0.033821414200847146),
('SVM', 0.8593942054433713, 0.042467036450607024)]
all resultats [('RF', 0.902194907813872, 0.033821414200847146),
('SVM', 0.8593942054433713, 0.042467036450607024), ('CART',
0.8237269534679544, 0.06278583197362432), ('MultinomialNB',
0.7879719051799824, 0.08755580534737224), ('LogisticRegression',
0.7852941176470589, 0.04977379242498178), ('KNN', 0.6605575065847236,
0.059506638746038246)]

```

On a un pipeline pour chaque prétraitement différent, on essaye pas mal (miniscule, lemmatisation, miniscule + lemmatisation..) et on stocke le fit_transform de nos X_train, X_test sur les pipelines dans des listes qui vont contenir tous les fit_transform des pipelines pour chaque classifieur, par la suite on parcourt ces listes là, on itère dessus, et chaque élément de la liste (train) va passer par le GridSearch et puis on prédit sur son correspondant dans la liste (test).

```

# le plus simple est de faire un test sur différents pipelines.
# pipeline de l'utilisation de CountVectorizer sur le texte avec
différents pré-traitements
CV_brut = Pipeline([('cleaner', TextNormalizer()),
                    ('count_vectorizer',
                     CountVectorizer(lowercase=False))])
CV_lowercase = Pipeline([('cleaner',
                          TextNormalizer(removestopwords=False, lowercase=True,

getstemmer=False, removedigit=False)),
                        ('count_vectorizer',
                         CountVectorizer(lowercase=False))])
CV_lowStop = Pipeline([('cleaner',
                        TextNormalizer(removestopwords=True, lowercase=True,

getstemmer=False, removedigit=False)),
                      ('count_vectorizer',
                       CountVectorizer(lowercase=False))])

CV_lowStopstem = Pipeline([('cleaner',
                            TextNormalizer(removestopwords=True, lowercase=True,

getstemmer=True, removedigit=False)),
                          ('count_vectorizer',
                           CountVectorizer(lowercase=False))])

# pipeline de l'utilisation de TfidfVectorizer avec différents pré-
traitements
TFIDF_brut = Pipeline([('cleaner', TextNormalizer()),
                       ('tfidf_vectorizer',
                        TfidfVectorizer(lowercase=False))])

TFIDF_lowercase = Pipeline([('cleaner',
                             TextNormalizer(removestopwords=False, lowercase=True,

getstemmer=False, removedigit=False)),
                           ('tfidf_vectorizer',
                            TfidfVectorizer(lowercase=False))])
TFIDF_lowStop = Pipeline([('cleaner',
                           TextNormalizer(removestopwords=True, lowercase=True,

getstemmer=False, removedigit=False)),
                          ('tfidf_vectorizer',
                           TfidfVectorizer(lowercase=False))])

TFIDF_lowStopstem = Pipeline([('cleaner',
                               TextNormalizer(removestopwords=True, lowercase=True,

```



```
getstemmer=True, removedigit=False)),
    ('tfidf_vectorizer',
TfidfVectorizer(lowercase=False))])
```

```
# Liste de tous les modeles à tester
all_models = [
    ("CV_brut", CV_brut),
    ("CV_lowercase", CV_lowercase),
    ("CV_lowStop", CV_lowStop),
    ("CV_lowStopstem", CV_lowStopstem),
    ("TFIDF_lowercase", TFIDF_lowercase),
    ("TFIDF_lowStop", TFIDF_lowStop),
    ("TFIDF_lowStopstem", TFIDF_lowStopstem),
    ("TFIDF_brut", TFIDF_brut)
]
```

```
X_train_text_SVC = []
X_test_text_SVC = []
```

```
X_train_text_RandomForestClassifier = []
X_test_text_RandomForestClassifier = []
```

```
for name, pipeline in all_models :
    X_train_text_SVC.append(pipeline.fit_transform(X_train).toarray())
    X_test_text_SVC.append(pipeline.transform(X_test).toarray())
```

```
X_train_text_RandomForestClassifier.append(pipeline.fit_transform(X_train).toarray())
```

```
X_test_text_RandomForestClassifier.append(pipeline.transform(X_test).toarray())
```

```
models = {
    'SVC': SVC(random_state=42),
    'RandomForestClassifier': RandomForestClassifier(random_state=42)
}
```

[illegible]

```

'log2']}]
}

for model_name, model in models.items():
    score='accuracy'
    X_train_text = eval('X_train_text_' + model_name)
    X_test_text = eval('X_test_text_' + model_name)
    for i in range(len(X_train_text)):
        grid_search = GridSearchCV(model, params[model_name], n_jobs=-1,
verbose=1,scoring=score)
        print("grid search fait")
        print("X_train",X_train_text[i].shape)
        print("y_train",y_train.shape)
        grid_search.fit(X_train_text[i],y_train)
        print ('meilleur score %0.3f'%(grid_search.best_score_),'\n')
        print ('meilleur estimateur',grid_search.best_estimator_,'\n')
        y_pred = grid_search.predict(X_test_text[i])
        MyshowAllScores(y_test,y_pred)

    print("Ensemble des meilleurs paramètres :")
    best_parameters = grid_search.best_estimator_.get_params()
    for param_dict in params[model_name]:
        for param_name, param_value in param_dict.items():
            print("\t%s: %r" % (param_name,
best_parameters[param_name]))

y_train (675,)
y_test (169,)
X_test (169,)
grid search fait
X_train (675, 25358)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.839

```

meilleur estimateur SVC(kernel='linear', random_state=42)

Accuracy : 0.852

Classification Report

	precision	recall	f1-score	support
FALSE	0.91429	0.77108	0.83660	83
TRUE	0.80808	0.93023	0.86486	86
accuracy			0.85207	169
macro avg	0.86118	0.85066	0.85073	169
weighted avg	0.86024	0.85207	0.85098	169

Ensemble des meilleurs paramètres :

C: 1.0

```
gamma: 'scale'
kernel: 'linear'
grid search fait
X_train (675, 21325)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.837
```

meilleur estimateur SVC(gamma=0.01, random_state=42)

Accuracy : 0.905

Classification Report

	precision	recall	f1-score	support
FALSE	0.83838	1.00000	0.91209	83
TRUE	1.00000	0.81395	0.89744	86
accuracy			0.90533	169
macro avg	0.91919	0.90698	0.90476	169
weighted avg	0.92063	0.90533	0.90463	169

Ensemble des meilleurs paramètres :

```
C: 1.0
gamma: 0.01
kernel: 'rbf'
grid search fait
X_train (675, 21197)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.847
```

meilleur estimateur SVC(kernel='linear', random_state=42)

Accuracy : 0.864

Classification Report

	precision	recall	f1-score	support
FALSE	0.91667	0.79518	0.85161	83
TRUE	0.82474	0.93023	0.87432	86
accuracy			0.86391	169
macro avg	0.87070	0.86271	0.86296	169
weighted avg	0.86989	0.86391	0.86317	169

Ensemble des meilleurs paramètres :

```
C: 1.0
gamma: 'scale'
kernel: 'linear'
grid search fait
```

```
X_train (675, 14382)
y_train (675,)
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.840
```

```
meilleur estimateur SVC(kernel='linear', random_state=42)
```

```
Accuracy : 0.870
```

```
Classification Report
```

	precision	recall	f1-score	support
FALSE	0.91781	0.80723	0.85897	83
TRUE	0.83333	0.93023	0.87912	86
accuracy			0.86982	169
macro avg	0.87557	0.86873	0.86905	169
weighted avg	0.87482	0.86982	0.86923	169

```
Ensemble des meilleurs paramètres :
```

```
  C: 1.0
```

```
  gamma: 'scale'
```

```
  kernel: 'linear'
```

```
grid search fait
```

```
X_train (675, 21325)
```

```
y_train (675,)
```

```
Fitting 5 folds for each of 18 candidates, totalling 90 fits
meilleur score 0.883
```

```
meilleur estimateur SVC(C=5, random_state=42)
```

```
Accuracy : 0.911
```

```
Classification Report
```

	precision	recall	f1-score	support
FALSE	0.92500	0.89157	0.90798	83
TRUE	0.89888	0.93023	0.91429	86
accuracy			0.91124	169
macro avg	0.91194	0.91090	0.91113	169
weighted avg	0.91171	0.91124	0.91119	169

```
Ensemble des meilleurs paramètres :
```

```
  C: 5
```

```
  gamma: 'scale'
```

```
  kernel: 'rbf'
```

```
grid search fait
```

```
X_train (675, 21197)
```

```
y_train (675,)
```

```
Fitting 5 folds for each of 18 candidates, totalling 90 fits
```

meilleur score 0.884

meilleur estimateur SVC(C=5, random_state=42)

Accuracy : 0.905

Classification Report

	precision	recall	f1-score	support
FALSE	0.90361	0.90361	0.90361	83
TRUE	0.90698	0.90698	0.90698	86
accuracy			0.90533	169
macro avg	0.90530	0.90530	0.90530	169
weighted avg	0.90533	0.90533	0.90533	169

Ensemble des meilleurs paramètres :

C: 5

gamma: 'scale'

kernel: 'rbf'

grid search fait

X_train (675, 14382)

y_train (675,)

Fitting 5 folds for each of 18 candidates, totalling 90 fits

meilleur score 0.883

meilleur estimateur SVC(C=2, random_state=42)

Accuracy : 0.905

Classification Report

	precision	recall	f1-score	support
FALSE	0.92405	0.87952	0.90123	83
TRUE	0.88889	0.93023	0.90909	86
accuracy			0.90533	169
macro avg	0.90647	0.90488	0.90516	169
weighted avg	0.90616	0.90533	0.90523	169

Ensemble des meilleurs paramètres :

C: 2

gamma: 'scale'

kernel: 'rbf'

grid search fait

X_train (675, 25358)

y_train (675,)

Fitting 5 folds for each of 18 candidates, totalling 90 fits

meilleur score 0.877

meilleur estimateur SVC(C=2, random_state=42)

Accuracy : 0.899

Classification Report

	precision	recall	f1-score	support
FALSE	0.90244	0.89157	0.89697	83
TRUE	0.89655	0.90698	0.90173	86
accuracy			0.89941	169
macro avg	0.89950	0.89927	0.89935	169
weighted avg	0.89944	0.89941	0.89939	169

Ensemble des meilleurs paramètres :

C: 2

gamma: 'scale'

kernel: 'rbf'

grid search fait

X_train (675, 25358)

y_train (675,)

Fitting 5 folds for each of 8 candidates, totalling 40 fits

meilleur score 0.856

meilleur estimateur RandomForestClassifier(n_estimators=50,
random_state=42)

Accuracy : 0.882

Classification Report

	precision	recall	f1-score	support
FALSE	0.89873	0.85542	0.87654	83
TRUE	0.86667	0.90698	0.88636	86
accuracy			0.88166	169
macro avg	0.88270	0.88120	0.88145	169
weighted avg	0.88242	0.88166	0.88154	169

Ensemble des meilleurs paramètres :

n_estimators: 50

max_features: 'sqrt'

grid search fait

X_train (675, 21325)

y_train (675,)

Fitting 5 folds for each of 8 candidates, totalling 40 fits

meilleur score 0.852

meilleur estimateur RandomForestClassifier(random_state=42)

Accuracy : 0.882

Classification Report

	precision	recall	f1-score	support
FALSE	0.89873	0.85542	0.87654	83
TRUE	0.86667	0.90698	0.88636	86
accuracy			0.88166	169
macro avg	0.88270	0.88120	0.88145	169
weighted avg	0.88242	0.88166	0.88154	169

Ensemble des meilleurs paramètres :

n_estimators: 100

max_features: 'sqrt'

grid search fait

X_train (675, 21197)

y_train (675,)

Fitting 5 folds for each of 8 candidates, totalling 40 fits

meilleur score 0.855

meilleur estimateur RandomForestClassifier(n_estimators=50,
random_state=42)

Accuracy : 0.888

Classification Report

	precision	recall	f1-score	support
FALSE	0.90000	0.86747	0.88344	83
TRUE	0.87640	0.90698	0.89143	86
accuracy			0.88757	169
macro avg	0.88820	0.88722	0.88743	169
weighted avg	0.88799	0.88757	0.88750	169

Ensemble des meilleurs paramètres :

n_estimators: 50

max_features: 'sqrt'

grid search fait

X_train (675, 14382)

y_train (675,)

Fitting 5 folds for each of 8 candidates, totalling 40 fits

meilleur score 0.853

meilleur estimateur RandomForestClassifier(max_features='log2',
random_state=42)

Accuracy : 0.870

Classification Report

	precision	recall	f1-score	support
FALSE	0.84270	0.90361	0.87209	83

TRUE	0.90000	0.83721	0.86747	86
accuracy			0.86982	169
macro avg	0.87135	0.87041	0.86978	169
weighted avg	0.87186	0.86982	0.86974	169

Ensemble des meilleurs paramètres :

```

n_estimators: 100
max_features: 'log2'
grid search fait
X_train (675, 21325)
y_train (675,)
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.855

```

meilleur estimateur RandomForestClassifier(max_features='log2', random_state=42)

Accuracy : 0.888

Classification Report

	precision	recall	f1-score	support
FALSE	0.84783	0.93976	0.89143	83
TRUE	0.93506	0.83721	0.88344	86
accuracy			0.88757	169
macro avg	0.89145	0.88848	0.88743	169
weighted avg	0.89222	0.88757	0.88736	169

Ensemble des meilleurs paramètres :

```

n_estimators: 100
max_features: 'log2'
grid search fait
X_train (675, 21197)
y_train (675,)
Fitting 5 folds for each of 8 candidates, totalling 40 fits
meilleur score 0.867

```

meilleur estimateur RandomForestClassifier(random_state=42)

Accuracy : 0.911

Classification Report

	precision	recall	f1-score	support
FALSE	0.90476	0.91566	0.91018	83
TRUE	0.91765	0.90698	0.91228	86
accuracy			0.91124	169
macro avg	0.91120	0.91132	0.91123	169

weighted avg 0.91132 0.91124 0.91125 169

Ensemble des meilleurs paramètres :

 n_estimators: 100

 max_features: 'sqrt'

grid search fait

X_train (675, 14382)

y_train (675,)

Fitting 5 folds for each of 8 candidates, totalling 40 fits

meilleur score 0.864

meilleur estimateur RandomForestClassifier(n_estimators=300,
random_state=42)

Accuracy : 0.882

Classification Report

	precision	recall	f1-score	support
FALSE	0.86207	0.90361	0.88235	83
TRUE	0.90244	0.86047	0.88095	86
accuracy			0.88166	169
macro avg	0.88225	0.88204	0.88165	169
weighted avg	0.88261	0.88166	0.88164	169

Ensemble des meilleurs paramètres :

 n_estimators: 300

 max_features: 'sqrt'

grid search fait

X_train (675, 25358)

y_train (675,)

Fitting 5 folds for each of 8 candidates, totalling 40 fits

meilleur score 0.870

meilleur estimateur RandomForestClassifier(n_estimators=300,
random_state=42)

Accuracy : 0.899

Classification Report

	precision	recall	f1-score	support
FALSE	0.88372	0.91566	0.89941	83
TRUE	0.91566	0.88372	0.89941	86
accuracy			0.89941	169
macro avg	0.89969	0.89969	0.89941	169
weighted avg	0.89998	0.89941	0.89941	169

Ensemble des meilleurs paramètres :

n_estimators: 300
max_features: 'sqrt'

