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CISC689
Professor Shanker
Homework 3
Due: May 1st, 2020

Homework 3

Q1. [20 points] Chunking

i.   Manually annotated sentences:

1. (**NP** Balcor), which has (**NP** interests) in (**NP** real estate), said (**NP** the position) is newly created.
2. (**NP** The move) followed (**NP** a round) of (**NP** similar increases) by (**NP** other lenders) against (**NP** Arizona real estate loans), reflecting (**NP** a continuing decline) in (**NP** that market).
3. (**NP** United) paid (**NP** him) (**NP** a $375,000 bonus) to lure (**NP** him) away from (**NP** American Airlines), and (**NP** he) was paid (**NP** a salary of $342,122) (**NP** last year) with (**NP** a $280,000 bonus).
4. (**NP** Public protests) against (**NP** him) were triggered in (**NP** June 1987) due to (**NP** charges) by (**NP** Diaz Herrera), (**NP** his former chief of staff), that (**NP** Mr. Noriega) had stolen (**NP** the 1984 election) and had ordered (**NP** the killing) of (**NP** Messrs. Spadafora) and (**NP** Torrijos).
5. (**NP** They) are in (**NP** the forefront) of opposing (**NP** the search) for (**NP** new landfills) and (**NP** methods) of (**NP** incineration) and even oppose (**NP** new methods) of (**NP** research) such as (**NP** genetic engineering).
6. (**NP** It) is providing (**NP** $50 million) in (**NP** emergency financing) to (**NP** the company) and has agreed to buy as much as (**NP** $75 million) in (**NP** receivables) from (**NP** B. Altman & Co.) and (**NP** Bonwit Teller), (**NP** L.J. Hooker)'s two fully owned (**NP** department-store chains).
7. (**NP** This summer), (**NP** the jamboree) attracted (**NP** more visitors) than the (**NP** busiest week) of (**NP** the town's winter ski season).
8. (**NP** His term) has produced no (**NP** spectacular failures) in (**NP** politics), in (**NP** the economy) or on (**NP** the military front), and has chalked up (**NP** some successes).
9. (**NP** The Ginnie Mae 9% issue) was yielding (**NP** 9.43%) to (**NP** a 12-year average life assumption), as (**NP** the spread) above (**NP** the Treasury 10-year note) held at (**NP** 1.42 percentage points).
10. By (**NP** early May), (**NP** Moscow) had delivered, for (**NP** example), (**NP** 1,000 trucks), (**NP** about 100 tanks), (**NP** artillery) and (**NP** hundreds) of (**NP** other combat vehicles).

ii.   Model **a** (using only current POS) predicted base NPs:
1. (**NP** Balcor), (**NP** which) has (**NP** interests) in (**NP** real estate), said (**NP** the position) is newly created.
2. (**NP** The move) followed (**NP** a round) of (**NP** similar increases) by (**NP** other lenders) against (**NP** Arizona real estate loans), reflecting (**NP** a) continuing (**NP** decline) in (**NP** that market).
3. (**NP** United) paid (**NP** him) (**NP** a) (**NP** $375,000 bonus) to lure (**NP** him) away from (**NP** American Airlines), and (**NP** he) was paid (**NP** a salary) of (**NP** $342,122 last year) with (**NP** a) (**NP** $280,000 bonus).
4. (**NP** Public protests) against (**NP** him) were triggered in (**NP** June 1987 due) to (**NP** charges) by (**NP** Diaz Herrera), (**NP** his former chief) of (**NP** staff), that (**NP** Mr. Noriega) had stolen (**NP** the 1984 election) and had ordered (**NP** the killing) of (**NP** Messrs. Spadafora) and (**NP** Torrijos).
5. (**NP** They) are in (**NP** the forefront) of opposing (**NP** the search) for (**NP** new landfills) and (**NP** methods) of (**NP** incineration) and even oppose (**NP** new methods) of (**NP** research such) as (**NP** genetic engineering).
6. (**NP** It) is providing (**NP** $50 million) in (**NP** emergency financing) to (**NP** the company) and has agreed to buy as (**NP** much) as (**NP** $75 million) in (**NP** receivables) from (**NP** B. Altman) & (**NP** Co.) and (**NP** Bonwit Teller), (**NP** L.J). (**NP** Hooker) (**NP** 's two) fully owned (**NP** department-store chains).
7. (**NP** This summer), (**NP** the jamboree) attracted (**NP** more visitors) than (**NP** the busiest week) of (**NP** the town) (**NP** 's winter ski season).
8. (**NP** His term) has produced (**NP** no spectacular failures) in (**NP** politics), in (**NP** the economy) or on (**NP** the military front), and has chalked up (**NP** some successes).
9. (**NP** The Ginnie Mae 9 % issue) was yielding (**NP** 9.43 %) to (**NP** a 12-year average life assumption), as (**NP** the spread) above (**NP** the Treasury 10-year note) held at (**NP** 1.42 percentage points).
10. By (**NP** early May), (**NP** Moscow) had delivered, for (**NP** example), (**NP** 1,000 trucks), about (**NP** 100 tanks), (**NP** artillery) and (**NP** hundreds) of (**NP** other combat vehicles).

Model **b** (Using only current word, current pos and previous pos) predicted base NPs:
1. (**NP** Balcor), (**NP** which) has (**NP** interests) in (**NP** real estate), said (**NP** the position) is (**NP** newly) created.
2. (**NP** The move) followed (**NP** a round) of (**NP** similar increases) by (**NP** other lenders) against (**NP** Arizona real estate loans), reflecting (**NP** a continuing decline) in (**NP** that market).
3. (**NP** United) paid (**NP** him) (**NP** a $375,000 bonus) to lure (**NP** him) away from (**NP** American Airlines), and (**NP** he) was paid (**NP** a salary) of (**NP** $342,122) (**NP** last year) with (**NP** a $280,000 bonus).
4. (**NP** Public protests) against (**NP** him) were triggered in (**NP** June 1987) due to (**NP** charges) by (**NP** Diaz Herrera), (**NP** his former chief) of (**NP** staff), that

(**NP** Mr. Noriega) had stolen (**NP** the 1984 election) and had ordered (**NP** the killing) of (**NP** Messrs. Spadafora) and (**NP** Torrijos).

5. (**NP** They) are in (**NP** the forefront) of opposing (**NP** the search) for (**NP** new landfills) and (**NP** methods) of (**NP** incineration) and even oppose (**NP** new methods) of (**NP** research) such as (**NP** genetic engineering).

6. (**NP** It) is providing (**NP** $50 million) in (**NP** emergency financing) to (**NP** the company) and has agreed to buy as (**NP** much) as (**NP** $75 million) in (**NP** receivables) from (**NP** B. Altman & Co.) and (**NP** Bonwit Teller), (**NP** L.J). (**NP** Hooker) (**NP** 's two) fully owned (**NP** department-store chains).

7. (**NP** This summer), (**NP** the jamboree) attracted (**NP** more visitors) than (**NP** the busiest week) of (**NP** the town) (**NP** 's winter ski season).

8. (**NP** His term) has produced (**NP** no spectacular failures) in (**NP** politics), in (**NP** the economy) or on (**NP** the military front), and has chalked up (**NP** some successes).

9. (**NP** The Ginnie Mae 9% issue) was yielding (**NP** 9.43%) to (**NP** a 12-year average life assumption), as (**NP** the spread) above (**NP** the Treasury 10-year note) held at (**NP** 1.42 percentage points).

10. By (**NP** early May), (**NP** Moscow) had delivered, for (**NP** example), (**NP** 1,000 trucks), (**NP** about) (**NP** 100 tanks), (**NP** artillery) and (**NP** hundreds) of (**NP** other combat vehicles).

Model **c** (Using only current word, current pos, previous pos and next word pos) predicted base NPs:

1. (**NP** Balcor), (**NP** which) has (**NP** interests) in (**NP** real estate), said (**NP** the position) is (**NP** newly) created.

2. (**NP** The move) followed (**NP** a round) of (**NP** similar increases) by (**NP** other lenders) against (**NP** Arizona real estate loans), reflecting (**NP** a continuing decline) in (**NP** that market).

3. (**NP** United) paid (**NP** him) (**NP** a $375,000 bonus) to lure (**NP** him) away from (**NP** American Airlines), and (**NP** he) was paid (**NP** a salary) of (**NP** $342,122) (**NP** last year) with (**NP** a $280,000 bonus).

4. (**NP** Public protests) against (**NP** him) were triggered in (**NP** June 1987) due to (**NP** charges) by (**NP** Diaz Herrera), (**NP** his former chief) of (**NP** staff), that (**NP** Mr. Noriega) had stolen (**NP** the 1984 election) and had ordered (**NP** the killing) of (NP Messrs. Spadafora) and (NP Torrijos).

5. (**NP** They) are in (**NP** the forefront) of opposing (**NP** the search) for (**NP** new landfills) and (**NP** methods) of (**NP** incineration) and even oppose (**NP** new methods) of (**NP** research) such as (**NP** genetic engineering).

6. (**NP** It) is providing (**NP** $50 million) in (**NP** emergency financing) to (**NP** the company) and has agreed to buy (**NP** as much) as (**NP** $75 million) in (**NP** receivables) from (**NP** B. Altman & Co.) and (**NP** Bonwit Teller), (**NP** L.J). (**NP** Hooker) (**NP** 's two) fully owned (**NP** department-store chains).

7. (**NP** This summer), (**NP** the jamboree) attracted (**NP** more visitors) than (**NP** the busiest week) of (**NP** the town) (**NP** 's winter ski season).

8. (**NP** His term) has produced (**NP** no spectacular failures) in (**NP** politics), in (**NP** the economy) or on (**NP** the military front), and has chalked up (**NP** some successes).
9. (**NP** The Ginnie Mae 9% issue) was yielding (**NP** 9.43%) to (**NP** a 12-year average life assumption), as (**NP** the spread) above (**NP** the Treasury 10-year note) held at (**NP** 1.42 percentage points).
10. By (**NP** early May), (**NP** Moscow) had delivered, for (**NP** example), (**NP** 1,000 trucks), (**NP** about) (**NP** 100 tanks), (**NP** artillery and) (**NP** hundreds) of (**NP** other combat vehicles).

Model a:

Model **a** disagrees with my annotations in certain cases where there is a determiner that it thinks is a single-word noun phrase, for example it labels "which" and "a" as noun phrases on their own. Model **a** labels the word "much" in sentence 6 as an NP and labels "his former chief of staff" in sentence 4 as two separate NPs: "his former chief" and "staff". My annotations disagreed in both of those cases. Also in sentence 4 model **a** has an NP "June 1987 due" which my annotations disagreed with, the NP should not include the word "due" as part of it. My annotations agree with the model on everything else.

Model b:

Model **b** disagrees with my annotations by labeling "which" as an NP on its own in sentence 1, and by labeling the word "much" in sentence 6 as an NP. Model **b** also labels "his former chief of staff" in sentence 4 as two separate NPs: "his former chief" and "staff". My annotations have it as a single NP "his former chief of staff". My annotations agree with the model on everything else.

Model c:

Model **c** disagrees with my annotations by labeling "which" as an NP on its own in sentence 1, and by labeling the word "as much" in sentence 6 as an NP. Model **c** also labels "his former chief of staff" in sentence 4 as two separate NPs: "his former chief" and "staff". My annotations have it as a single NP "his former chief of staff". Finally, model **c** labels "artillery and" in sentence 10 as an NP when my annotations and the other models say it should be just "artillery". My annotations agree with the model on everything else.

Q2. [20 points] Named Entity Recognition
Manually annotated sentences:
1. (**Organization** Balcor), which has interests in real estate, said the position is newly created.
2. The move followed a round of similar increases by other lenders against (**GeoPoliticalEntity** Arizona) real estate loans, reflecting a continuing decline in that market.

3. (**Organization** United) paid him a $375,000 bonus to lure him away from (**Organization** American Airlines), and he was paid a salary of $342,122 last year with a $280,000 bonus.
4. Public protests against him were triggered in June 1987 due to charges by (**Person** Diaz Herrera), his former chief of staff, that (**Person** Mr. Noriega) had stolen the 1984 election and had ordered the killing of Messrs. (**Person** Spadafora) and (**Person** Torrijos).
5. They are in the forefront of opposing the search for new landfills and methods of incineration and even oppose new methods of research such as genetic engineering.
6. It is providing $50 million in emergency financing to the company and has agreed to buy as much as $75 million in receivables from (**Organization** B. Altman & Co.) and (**Organization** Bonwit Teller), (**Organization** L.J. Hooker) 's two fully owned department-store chains.
7. This summer, the jamboree attracted more visitors than the busiest week of the town's winter ski season.
8. His term has produced no spectacular failures in politics, in the economy or on the military front, and has chalked up some successes.
9. The (**Organization** Ginnie Mae) 9% issue was yielding 9.43% to a 12-year average life assumption, as the spread above the (**Organization** Treasury) 10-year note held at 1.42 percentage points.
10. By early May, (**GeoPoliticalEntity** Moscow) had delivered, for example, 1,000 trucks, about 100 tanks, artillery and hundreds of other combat vehicles.

Predicted NE's by nltk.ne_chunk:
1. (**GeoPoliticalEntity** Balcor), which has interests in real estate, said the position is newly created.
2. The move followed a round of similar increases by other lenders against (**GeoPoliticalEntity** Arizona) real estate loans, reflecting a continuing decline in that market.
3. (**GeoPoliticalEntity** United) paid him a $375,000 bonus to lure him away from (**GeoPoliticalEntity** American Airlines), and he was paid a salary of $342,122 last year with a $280,000 bonus.
4. (**GeoPoliticalEntity** Public) protests against him were triggered in June 1987 due to charges by (**Person** Diaz Herrera), his former chief of staff, that (**Person** Mr. Noriega) had stolen the 1984 election and had ordered the killing of Messrs. Spadafora and (**GeoPoliticalEntity** Torrijos).
5. They are in the forefront of opposing the search for new landfills and methods of incineration and even oppose new methods of research such as genetic engineering.
6. It is providing $50 million in emergency financing to the company and has agreed to buy as much as $75 million in receivables from B. Altman & Co. and (**Person** Bonwit Teller), L.J. (**Person** Hooker)'s two fully owned department-store chains.
7. This summer, the jamboree attracted more visitors than the busiest week of the town's winter ski season.

8. His term has produced no spectacular failures in politics, in the economy or on the military front, and has chalked up some successes.
9. The (**Organization** Ginnie) Mae 9% issue was yielding 9.43% to a 12-year average life assumption, as the spread above the (**Organization** Treasury) 10-year note held at 1.42 percentage points.
10. By early May, (**GeoPoliticalEntity** Moscow) had delivered, for example, 1,000 trucks, about 100 tanks, artillery and hundreds of other combat vehicles.

Differences and suggested features:

In sentence 1, nltk calls "Balcor" a GeoPoliticalEntity while I have it marked as an Organization. This same type of error occurs in sentence 3 where "United" and "American Airlines" are marked as GeoPoliticalEntities when they are actually Organizations. Although simple lookup can't solve the problem on its own, this type of error could be corrected by using simple lookup as a verification step. For example, any time the classifier says that a named entity is most likely a GeoPoliticalEntity, do a lookup in a table of countries, states, cities, counties, etc. to verify that it exists in that table. If so, then proceed with labeling it as a GeoPoliticalEntity, otherwise choose the next most likely classification.

A similar type of error occurs in sentence 4 where "Torrijos" is marked as a GeoPoliticalEntity when it is really a Person. That error could also be avoided by using the aforementioned lookup verification procedure. Also, in sentence 4 the first word "Public" is marked as a GeoPoliticalEntity when it's not a named entity at all. This situation is difficult because capitalization is extremely important for recognizing named entities, and the first word in every English sentence is always capitalized. The features that could help here are the part of speech of the word and a binary feature of whether or not the word is the first word in a sentence. Nltk actually tags "Public" as an adjective yet still marks it as a GeoPoliticalEntity, which is odd because a regular adjective most likely could not be a named entity.

In sentence 6 I have "B. Altman & Co." marked as an Organization while nltk does not mark it as a named entity at all. A binary feature for the presence of "& Co." would work to correct this type of error, and I think it would be worth considering how much of a dead giveaway "& Co." is for the fact that something is an organization. My annotations and nltk give the same results for all other cases in these 10 sentences.

Q3. [20 points] Date Entities
Regular expression used:
(((([0-9]{1,2})[])?([Jj]une|[Jj]uly|[Aa]ugust|[Ss]eptember|[Oo]ctober|[Nn]ovember|
[Dd]ecember|[Jj]anuary|[Ff]ebruary|[Mm]arch|[Aa]pril|
[Mm]ay),?[][0-9]{4})|((([Jj]une|[Jj]uly|[Aa]ugust|[Ss]eptember|[Oo]ctober|[Nn]ovember|
[Dd]ecember|[Jj]anuary|[Ff]ebruary|[Mm]arch|[Aa]pril|[Mm]ay)[ ]([0-9]{1,2}),?[ ]([0-9]{4})?))

Charlie Chaplin output:
March 2020
16 April 1889
16 April 1889
16 April 1889
July 1898
September 1898
May 1903
July 1903
December 1905
May 1906
April 1910
June 1912
September 1913
2 February 1914
7 February 1914
4 May 1914
December 1914
April 1915
December 1915
March 1916
January 1918
June 1917
April 1918
January 1919
September 1918
August 1919
September 1921
November 1922
February 1924
August 1925
25 November 1924
November 1926
October 1927
December 1930
May 15
July 1932
February 1936
September 1939
October 1940
June 1941
21 March 1944
October 1943
July 1944

April 1946
April 1947
June 1947
November 1951
18 September 1952
January 1953
September 1957
July 1962
January 1967
October 1977
1 March 1978
July 2005
17 April 2016
15 April 2011
11 May 1889
May 1896
December 1900
31 January 1931
January 1941
December 1942
October 1942
30 October 1942
September 1946
November 1947
17 February 2012
18 February 2011
May 1916
22 November 2012
1 November 2018
24 March 2012
5 September 2015
22 September 1930
5 July 2011
6 April 2012
22 November 2012
6 July 2015
22 March 1944
5 April 1944
17 February 2012
9 December 2014
5 December 2010
26 December 2002
21 July 2002
31 December 1974

5 March 1975
27 November 2012
28 August 2016
14 February 2012
4 August 2003
22 April 1967
10 April 2012
22 June 2012
8 June 1998
25 May 2013
23 April 2012
1 June 2006
10 September 2011
5 November 2013
March 1993
7 February 2016
9 February 2016
5 February 2016
18 August 2015
24 December 2013
13 March 2014
11 September 2013
10 July 2012
5 November 2013
July 2005
18 April 2016
17 April 2017
28 August 2012
4 June 2015
1 May 2018
8 October 2011
22 February 2015
24 August 2012
17 April 1989
16 April 1989
March 1989
15 April 2011
2 November 2013
23 November 2015
24 November 2015
24 November 2015
9 November 2013
28 August 2014
21 July 2013

15 June 2012
13 April 2013
5 October 2013
27 June 2009
17 January 2017
4 March 1975
28 October 2012
30 March 2012
3 March 2012
18 April 2009
28 March 2013
March 2020
11 April 2020

Constitution of the united states output:
August 2014
August 2015
September 17, 1787
September 5, 1774
September 1786
February 21, 1787
September 17, 1787
May 14, 1787
May 31,
July 2
July 24,
August 6
September 17,
September 28,
June 21, 1788
February 2016
January 1, 1808
September 17, 1787
March 4
April 30, 1812
June 25, 1938
January 2020
March, 1789
September 22, 2014
October 30, 2015
August 15, 2016
September 16, 2014
December 28, 1976
July 4, 1787

September 28, 1787
September 13, 1788
March 4, 2013
April 10, 2016
August 2014
January 16, 2013
August 31, 2014
March 30, 2012
April 2, 2012
December 6, 2009
January 4, 2013
August 2014
May 9, 2008
September 12, 2018
January 15, 2020
January 30, 2020
August 14, 1997
April 9, 2013
July 6, 2016
September 1787
September 1787
August 1788
October 2019
August 2014
26 September 2019
August 2014
August 2014
23 April 2020

Daylight saving time output:
November 2019
April 30, 1916
May 1
February 12, 1908
July 1, 1908
February 17
March 10,
May 1909
April 30, 1916
May 1965
December 2008
October 26, 2014
October 2009
March 2011

February 2020
April 2020
October 1974
November 2013
September 16, 2008
October 2006
March 7, 2007
November 6, 2011
March 13, 2016
December 28, 2014
March 17, 2002
March 11, 2016
April 26, 1784
September 3, 2018
February 12, 1908
March 8, 2018
July 16, 2009
May 3, 2009
April 16, 2019
March 31, 2016
July 17, 2009
March 12, 2007
October 1, 2008
August 8, 2005
September 22, 2009
April 28, 1934
September 28, 2006
May 1965
May 24, 2001
September 11, 2017
July 26, 2005
December 14, 2008
February 26, 2011
May 18, 2009
April 14, 2010
June 16, 2011
September 19, 2011
July 1, 2014
October 25, 2014
December 1, 2013
March 25, 2011
June 1, 2018
December 2, 2017
October 30, 2013

May 24, 2001
March 9, 2018
November 1, 2017
February 27, 2008
October 19, 2007
October 20, 2009
October 31, 2007
May 18, 2013
April 17, 2006
March 14, 2012
May 1, 2013
March 20, 2007
March 7, 2007
May 24, 2001
October 26, 2009
December 8, 2015
April 4, 2008
March 9, 2007
February 24, 2009
February 26, 2009
October 31, 2019
November 2015
March 5, 2007
October 25, 2007
October 30, 2008
August 2013
March 16, 2005
February 2017
October 24, 2003
March 1, 2007
March 29, 2007
November 1, 2006
September 28, 2011
March 5, 2007
November 2000
November 2000
June 30, 2008
September 21, 2013
September 14, 2007
August 31, 2012
November 3, 2013
July 8, 2013
February 10, 2009
July 1, 2014

June 2006
March 8, 2018
April 23, 2019
October 29, 2019
November 1, 2018
March 26, 2019
November 2019
24 April 2020

Nobel prize output:
June 2018
November 20, 2020
21 October 1833
10 December 1896
27 November 1895
April 1897
30 December 1896
29 June 1900
3 October 2011
December 2018
30 May 2012
June 2012
January 1973
January 1948
December 5, 2014
8 October 2010
12 March 2019
10 February 2017
3 October 2011
16 October 2000
6 June 1981
30 April 1996
2 December 2012
4 July 2009
9 January 2010
3 October 2011
3 December 1999
7 October 2009
10 October 2008
25 April 2000
11 October 2004
10 December 2009
10 December 2009
4 December 2007

5 December 2009
8 December 2008
18 December 2007
7 December 2007
11 January 2009
26 March 2004
16 June 2007
11 October 2009
11 June 2012
5 October 2009
7 October 2008
26 July 2011
20 September 1981
9 October 2009
9 October 2009
10 October 2009
9 October 2009
9 October 2009
9 October 2009
11 October 2005
11 October 2005
9 October 2009
8 October 2009
12 January 2008
1 December 1999
7 October 2009
31 December 1988
3 October 2008
8 October 2008
6 October 2009
11 October 2016
November 2001
4 December 2001
25 April 2009
9 August 2007
29 October 2014
3 October 2018
3 October 2018
1 October 2018
6 October 2017
18 October 2018
2 July 2009
28 August 2003
11 September 2009

8 August 2007
22 August 1995
4 October 2006
15 October 2019
22 September 2003
6 October 2009
3 October 2013
14 January 2007
27 January 2007
5 December 2013
9 August 2017
28 July 2013
June 2018
19 April 2020

World war I output:
September 2019
September 2019
28 June 1919
10 September 1919
27 November 1919
4 June 1920
10 August 1920
24 August 1921
25 August 1921
29 August 1921
24 July 1923
November 2018
28 July 1914
28 June 1914
July 1914
November 1914
April 1917
March 1918
15 August 1917
September 1914
October 1914
October 1908
16 June 1913
28 June 1914
September 11
29 June 1914
28 July 1914
March 2020

August 1914
November 2018
November 2018
30 August 1914
December 1915
March 2016
July 1916
12 September 1914
22 April 1915
February 1916
November 1916
May 1917
November 1917
May 2018
June 1916
July 1918
12 October 1915
June 1917
19 November 1916
September 1918
March 1917
January 1917
December 1914
December 1914
March 1917
June 1916
April 1915
September 2019
August 1916
26 October 1917
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16 April 1917
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July 1918
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February 1917
3 May 1917
April 1917

April 1918
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15 August 1917
May 1915
3 February 1917
January 1917
5 November 1917
21 March 1918
10 April 1918
April 1918
November 1918
August 1918
October 1918
11 November 1918
29 September 1918
11 November 1918
11 November 1918
June 1940
November 1918
28 June 1919
10 January 1920
16 July 1920
9 August 1920
26 July 1921
6 August 1924
24 July 1923
11 November 1918
28 June 1919
28 June 1919
April 1918
August 1914
27 June 1917
15 September 1916
11 November 1918
April 1917
23 October 1911
19 August 1915
27 June 1918
25 May 1915
November 1914
June, 1916
March 1915
April 1916

30 April 1915
August 1914
October 1914
November 1914
July 1914
June 2017
4 May 1917
September 1917
5 June 1917
August 1914
June 1916
January 1918
December 1915
November 1921
August 2014
June 2017
October 2010
14 October 1915
2 August 1914
December 1917
April 1917
January 1915
10 November 1998
1 December 2018
July 1914
2 August 1914
2 August 1914
10 November 1998
February 1988
30 June 1914
25 June 2014
June 1914
31 July 1914
March 24, 1917
August 1914
July 1914
4 August 1914
1 April 2002
31 August 2015
22 August 2009
21 February 2006
20 April 2018
29 August 2006
4 August 2014

30 December 2014
June 2016
9 November 2006
7 November 2017
11 November 2018
June 1917
14 June 2011
15 August 1917
12 October 1915
7 May 2009
4 June 2009
September 1918
21 September 2017
22 February 2017
2 October 2018
27 August 2007
28 October 2016
3 July 1921
10 February 1920
23 July 1920
27 August 1920
12 August 1921
12 August 1924
30 June 2011
3 April 2016
24 June 2014
27 July 1918
5 November 1918
22 August 2009
26 April 1916
1 May 2008
9 May 2008
20 May 2016
20 May 2013
30 January 2007
14 January 1995
10 May 1917
4 June 2012
17 September 2000
August 1914
26 April 2010
21 September 2014
September 2013
April 2008

28 February 1999
20 February 1986
20 February 1986
24 August 2007
13 June 2005
22 April 2008
17 April 2013
8 January 2009
19 July 2010
1 September 1924
25 September 2016
22 August 2009
4 May 2015
7 July 2015
15 April 1918
September 2019
December 1916
9 June 2011
21 September 2015
24 June 2008
June 2006
9 March 2015
28 September 2010
4 October 2010
30 September 2010
25 December 2010
June 1998
11 June 2010
24 May 2008
28 October 1915
4 July 2007
April 2014
8 October 1999
9 May 1992
February 1993
December 1970
10 June 2007
May 1996
August 1914
July 1996
April 2008
16 May 2007
15 March 1920
October 1990

5 March 2001
27 August 2007
1 December 2009
12 February 2009
23 October 2011
22 January 2020
11 June 2010
28 July 2005
June 2006
July 2014
May 2014
May 2019
11 November 1918
September 2019
27 April 2020