CHAPTER-V
SINGLE TO SEQUENCE CORRESPONDENCE

In this chapter, single to sequence correspondence is studied when single grapheme stands for various phoneme sequences. It occurs in initial, medially-before, medially-after and final positions.

5.1.1*. o = /wʌ/ Initial Occurrence*

The grapheme o in the combinations of on- is pronounced as /wʌ/.

o in the combination on- is pronounced as /wʌ/ and occurs in ten words (100%).

Example:
1. one /wʌn/ 2. once /wʌns/

on- is the grapheme combination having single to sequence correspondence in initial occurrence for the grapheme u.

5.1.3. o = /wʌ/ Medially after Occurrence*

The grapheme o in the combinations of -mo-, -yo- is pronounced as /w/.

o in the combination -yo- is pronounced as /w/ and occurs only in two words (66.7%).

Example:
1. everyone /evriwʌn/ 2. anyone /eniwʌn/

-mo-, -yo- are the grapheme combinations having single to sequence correspondence in medially after occurrence for the grapheme o.

* In the serial number, the first number (5) stands for the chapter, the second number (1) stands for a grapheme and the fourth number (1) stands for a position.
5.2.1. u = /ju:/, /jʊə/ Initial Occurrence

The grapheme u in the combinations of ub-, un-, us-, ut- is pronounced as /ju:/.

u in the combination ub- is pronounced as /ju:/ and occurs only in one word (2.6%).
Example: 1. ubiquitous /ju:bɪkwɪˈtəs/

u in the combination un- is pronounced as /ju:/ and occurs in seventeen words (44.7%).
Example:
1. unicorn /juːnɪkɔːn/ 2. unify /jʊnɪˈfaiər/

u in the combination us- is pronounced as /ju:/ and occurs in twelve words (31.6%).
Example:
1. usage /juːˈsɪdʒ/ 2. use /juːz/

u in the combination ut- is pronounced as /ju:/ and occurs in eight words (21%).
Example:
1. utensil /juːˈtɛnsəl/ 2. uterus /juːˈtɛrəs/

ub-, un-, us-, ut- are the grapheme combinations having single to sequence correspondence in initial occurrence for the grapheme u.

The grapheme u in the combinations of ur- is pronounced as /jʊə/.

u in the combination ur- is pronounced as /jʊə/ and occurs only in four words (100%).
Example:

1. uranium /juərenim/ 2. uranus /jʊərənəs/

ur- is the grapheme combination having single to sequence correspondence in initial occurrence for the grapheme u.

5.2.2. u = /juː/, /jʊ/, /jə/, /jʊə/ Medially before Occurrence


u in the combination -ua- is pronounced as /juː/ and occurs only in one word (0.4%).

Example:

1. nuance /njuːns/

u in the combination -ub- is pronounced as /juː/ and occurs in eight words (3.4%).

Example:

1. tubular /tjuːbjʊlər/ 2. cubic /kjuːbɪk/

u in the combination -uc- is pronounced as /juː/ and occurs in five words (2.2%).

Example:

1. inducement /ɪndjuːsmənt/ 2. producer /prədjuːsər/

u in the combination -ud- is pronounced as /juː/ and occurs in seven words (3%).

Example:

1. feudal /fjuːd*l/ 2. student /stjuːd*nt/
Example:
1. uranium /juərenim/ 2. uranus /juərəˈnæs/

ur- is the grapheme combination having single to sequence correspondence in initial occurrence for the grapheme u.

5.2.2. u = /ju:/, /ju/, /jə/, /jʊə/ Medially before Occurrence


u in the combination -ua- is pronounced as /ju:/ and occurs only in one word (0.4%).
Example:
1. nuance /njuːns/

u in the combination -ub- is pronounced as /ju:/ and occurs in eight words (3.4%).
Example:
1. tubular /tjuːbələr/ 2. cubic /kjuːbɪk/

u in the combination -uc- is pronounced as /ju:/ and occurs in five words (2.2%).
Example:
1. inducement /ɪndjuːˈsmənt/ 2. producer /prədjuːˈseɪr/ u in the combination -ud- is pronounced as /ju:/ and occurs in seven words (3%).
Example:
1. feudal /fjuːd*l/ 2. student /stjuːd*nt/
u in the combination -ue- is pronounced as /ju:/ and occurs in thirty-three words (14.1%).

Example:
1. argue /aːɡjuː:/ 2. continued /kəntɪnju:d/

u in the combination -ug- is pronounced as /ju:/ and occurs only in five words (1.5%).

Example:
1. hugely /hjuːdʒli/ 2. fugitive /fjuːdʒətɪv/

u in the combination -ui- is pronounced as /ju:/ and occurs in nine words (3.9%).

Example:
1. ambiguity /æmbɪɡjuətɪ/ 2. continuity /kəntɪnjuətɪ/

u in the combination -ul- is pronounced as /ju:/ and occurs in seven words (3%).

Example:
1. molecule /məlɪkjuːl/ 2. peculiar /pɪkjʊlær/

u in the combination -um- is pronounced as /ju:/ and occurs in thirty-eight words (16.4%).

Example:
1. fumes /fjuːmz/ 2. numeral /njuːmərəl/

u in the combination -un- is pronounced as /ju:/ and occurs in twenty-four words (10.4%).

Example:
1. neptune /neptjuːn/ 2. funeral /fjuːnərəl/
u in the combination -uo- is pronounced as /ju:/ and occurs only in one word (0.4%).
Example:
1. duo /dju:u/

u in the combination -up- is pronounced as /ju:/ and occurs only in four words (1.7%).
Example:
1. duplicate /dju:p:lɪkət/ 2. stupid /stju:pɪd/

u in the combination -us- is pronounced as /ju:/ and occurs in forty-six words (19.9%).
Example:
1. defuse /di:fju:z/ 2. excuse /ɪkskju:z/

u in the combination -ut- is pronounced as /ju:/ and occurs in sixty-eight words (29.4%).
Example:
1. acute /əkju:t/ 2. neuter /nju:tər/

u in the combination -uu- is pronounced as /ju:/ and occurs only in one word (0.4%).
Example:
1. vacuum /vækju:m/

u in the combination -uv- is pronounced as /ju:/ and occurs only in one word (0.4%).
Example:
1. duvet /dju:vɛt/
-ua-, -ub-, -uc-, -ud-, -ue-, -ug-, -ui-, -ul-, -um-, -un-, -uo-, -up-, -us-, -ut-, -uu-, -uv- are the grapheme combinations having single to sequence correspondence in medially before occurrence for the grapheme u.


u in the combination -ua- is pronounced as /ju/ and occurs in thirty-nine words (48.1%).
Example:
1. arguable /aːɡjuəbl/ 2. valuable /væljuəbl/

u in the combination -ub- is pronounced as /ju/ and occurs only in one word (1.2%).
Example:
1. incubator /ɪŋkjuˈbætər/ 

u in the combination -ue- is pronounced as /ju/ and occurs only in three words (3.7%).
Example:
1. duet /djuːt/ 2. evacuee /ɪvækˈjuːiː/ 

u in the combination -ug- is pronounced as /ju/ and occurs only in one word (1.2%).
Example:
1. refugee /ˈrefjʊdʒiː/ 

u in the combination -ui- is pronounced as /ju/ and occurs only in three words (3.7%).
Example:
1. genuine /dʒenjuɪn/  2. intuition /ɪntjuɪn/  

u in the combination -ul- is pronounced as /ju/ and occurs in six words (7.4%).

Example:
1. adulation /ædʒuˈleɪʃn/  2. angular /æŋˈdʒjuər/  

u in the combination -um- is pronounced as /ju/ and occurs only in one word (1.2%).

Example:
1. acumen /əˈkjuːmən/  

u in the combination -un- is pronounced as /ju/ and occurs only in two words (2.5%).

Example:
1. communal /ˈkɒmjuːnəl/  2. genuine /dʒenjuɪn/  

u in the combination -uo- is pronounced as /ju/ and occurs in sixteen words (19.7%).

Example:
1. arduous /aːˈdjuəs/  2. ambiguous /æmˈbɪɡjuəs/  

u in the combination -up- is pronounced as /ju/ and occurs only in two words (2.5%).

Example:
1. duplicity /dʒuˈplɪsəti/  2. acupuncture /ˈeɪkJʊpəŋktʃər/  

u in the combination -ur- is pronounced as /ju/ and occurs only in three words (3.7%).
Example:

1. curate /kjuəræt/ 2. curator /kjuərətər/  

u in the combination -us- is pronounced as /ju/ and occurs only in one word (1.2%).

Example:

1. accusation /əkˈdʒuzəʃn/  

u in the combination -ut- is pronounced as /ju/ and occurs only in three words (3.7%).

Example:

1. contributor /kənˈtrɪbjuˌtər/ 2. contributory /kənˈtrɪbjuˈtəri/  

-ua-, -ub-, -ue-, -ui-, -ul-, -um-, -un-, -uo-, -up-, -ur-, -us-, -ut- are the grapheme combinations having single to sequence correspondence in medially before occurrence for the grapheme u.

The grapheme u in the combinations of -ub-, -uf-, -ul-, -un-, -up-, -ur-, -ut- is pronounced as /jə/.

u in the combination -ub- is pronounced as /jə/ and occurs only in two words (1.6%).

Example:

1. soluble /ˈsɒljəbl/ 2. insoluble /ˌɪnsəljəbl/  

u in the combination -uf- is pronounced as /jə/ and occurs only in three words (2.5%).

Example:

1. manufacture /mænˈfæktʃər/ 2. manufacturing /mænˈfæktʃəriŋ/
u in the combination -ul- is pronounced as /ja/ and occurs in eighty-five words (70.2%).

Example:
1. ambulance /æmbjələns/ 2. calculate /kælkjələrt/

u in the combination -un- is pronounced as /ja/ and occurs only in four words (3.3%).

Example:
1. ammunition /æmjənɪʃn/ 2. communism /kəmjənɪzəm/

u in the combination -up- is pronounced as /ja/ and occurs only in three words (2.5%).

Example:
1. preoccupied /pri:əkəpəid/ 2. unoccupied /ənəkəpəid/

u in the combination -ur- is pronounced as /jə/ and occurs in ten words (8.3%).

Example:
1. accuracy /ækjərəsi/ 2. accurate /ækjərət/

u in the combination -ut- is pronounced as /jə/ and occurs in fourteen words (11.6%).

Example:
1. attributable /ətrɪbjəˈtelɪ/ 2. reputation /rɪpjuˈteɪʃn/

-ub-, -uf-, -ul-, -un-, -up-, -ur-, -ut- are the grapheme combinations having single to sequence correspondence in medially before occurrence for the grapheme u.

The grapheme u in the combinations of -ur- is pronounced as /jʊə/.
u in the combination -ur- is pronounced as /jua/ and occurs in forty-three words (100%).

Example:
1. endurance /ɪndˈdʒʊərənɪs/ 2. incurable /ɪnˈkjʊərəbl/

-ur- is the grapheme combinations having single to sequence correspondence in medially before occurrence for the grapheme u.

5.2.3. u = /juː/, /juː/, /jə/, /jʊə/ Medially after Occurrence


u in the combination -au- is pronounced as /juː/ and occurs only in two words (0.9%).

Example:
1. beautician /ˈbeətɪʃən/ 2. beautiful /ˈbjuːtɪfəl/

u in the combination -bu- is pronounced as /juː/ and occurs in fourteen words (6.5%).

Example:
1. debut /ˈdebjuː/ 2. distribute /ˈdistrɪbjuːt/

u in the combination -cu- is pronounced as /juː/ and occurs in twenty-nine words (13.4%).

Example:
1. acute /ˈækjuːt/ 2. accuse /ˈækjuːz/
u in the combination -du- is pronounced as /ju:/ and occurs in nineteen words (8.8%).

Example:
1. deduce /dɪdʒuːs/ 2. nodule /ˈnɒdʒuːl/

u in the combination -eu- is pronounced as /ju:/ and occurs in fifteen words (6.9%).

Example:
1. feudal /fjuːdəl/ 2. reunite /riːˈjuːnɪt/  

u in the combination -fu- is pronounced as /ju:/ and occurs in nineteen words (8.8%).

Example:
1. confuse /kənˌfjuːz/ 2. defuse /ˌdɛfjuːz/

u in the combination -gu- is pronounced as /ju:/ and occurs only in one word (0.5%).

Example:
1. ambiguity /ˈæmbɪɡjuːti/  

u in the combination -hu- is pronounced as /ju:/ and occurs in eight words (3.7%).

Example:
1. enthuse /ɪnˈθjuːz/ 2. inhuman /ˈɪnhjuːmæn/

u in the combination -lu- is pronounced as /ju:/ and occurs in six words (2.8%).

Example:
1. deluge /ˈdɛljuːdʒ/ 2. devalue /ˈdɛvəljuː/
u in the combination -mu- is pronounced as /ju:/ and occurs in nineteen words (8.8%).
Example:
1. amuse /əmjuːz/ 2. amused /əmjuːzd/

u in the combination -nu- is pronounced as /ju:/ and occurs in sixteen words (7.4%).
Example:
1. continue /kəntɪnjuː:/ 2. enumerate /ɪnˌjuːmˈreɪt/

u in the combination -pu- is pronounced as /ju:/ and occurs in nine words (4.2%).
Example:
1. computer /kəmpjuːtə/ 2. dispute /dɪspjuːt/

u in the combination -su- is pronounced as /ju:/ and occurs in sixteen words (7.4%).
Example:
1. capsule /kæpsjuːl/ 2. consume /kənsjuːm/

u in the combination -tu- is pronounced as /ju:/ and occurs in thirty-nine words (18%).
Example:
1. altitude /æltɪtjuːd/ 2. astute /æstjuːt/

u in the combination -uu- is pronounced as /ju:/ and occurs only in one word (0.5%).
Example:
1. vacuum /vækjuːm/
u in the combination -vu- is pronounced as /ju:/ and occurs only in one word (0.5%).

Example:
1. revue /rivju:/

u in the combination -xu- is pronounced as /ju:/ and occurs only in two words (0.9%).

Example:
1. exuberant /ɪgzjuːbərənt/ 2. exude /ɪgzjuːd/  

The grapheme u in the combinations of -cu-, -du-, -fu-, -lu-, -mu-, -nu-, -tu-, -su- is pronounced as /ju/.

u in the combination -cu- is pronounced as /ju/ and occurs in fifteen words (22%).

Example:
1. acumen /əkˈjuːmən/ 2. evacuee /ɪvækjuː/  

u in the combination -du- is pronounced as /ju/ and occurs in nine words (13.2%).

Example:
1. adulation /əˈdʒuːleɪʃn/ 2. arduous /ˈɔːrdjuəs/  

u in the combination -fu- is pronounced as /ju/ and occurs only in one word (1.5%).
Example:
1. refugee /refjuːdʒi:/

u in the combination -gu- is pronounced as /ju/ and occurs in six words (8.8%).

Example:
1. angular /ˈæŋgljuər/ 2. arguable /əˈɡjuəbl/ u in the combination -lu- is pronounced as /ju/ and occurs in six words (8.8%).

Example:
1. evaluate /ɪˈvæljuət/ 2. invaluable /ɪnˈvæljuəbl/ u in the combination -mu- is pronounced as /ju/ and occurs only in one word (1.5%).

Example:
1. communal /ˈkɒmjʊnl/ u in the combination -nu- is pronounced as /ju/ and occurs in eleven words (16.2%).

Example:
1. genuine /dʒenjuɪn/ 2. insinuate /ɪnsɪnjuət/ u in the combination -su- is pronounced as /ju/ and occurs in seven words (10.3%).

Example:
1. casual /ˈkæʒjuəl/ 2. consular /ˈkɒnsjʊlər/ u in the combination -tu- is pronounced as /ju/ and occurs in twelve words (17.6%).
-cu-, -du-, -fu-, -gu-, -lu-, -mu-, -nu-, -tu-, -su- are the grapheme combinations having single to sequence correspondence in medially after occurrence for the grapheme u.


u in the combination -bu- is pronounced as /jə/ and occurs in ten words (7.9%).

Example:
1. fabulous /fa:bləs/ 2. tubular /tju:bələr/

u in the combination -cu- is pronounced as /jə/ and occurs in forty-three words (33.8%).

Example:
1. accuracy /ækjəri/ 2. accurate /ækjərət/

u in the combination -du- is pronounced as /jə/ and occurs only in three words (2.4%).

Example:
1. undulating /ʌndəleitɪŋ/ 2. incredulous /ɪnkredələs/

u in the combination -gu- is pronounced as /jə/ and occurs in fourteen words (11%).

Example:
1. argument /a:gjamənt/ 2. regular /regjələr/
u in the combination -hu- is pronounced as /\jə/ and occurs only in one word (0.8%).
Example:
1. posthumous /post\jəm\əs/

u in the combination -lu- is pronounced as /\jə/ and occurs in seven words (5.5%).
Example:
1. failure /feil\jə/ 2. insoluble /ins\əbl/

u in the combination -mu- is pronounced as /\jə/ and occurs in fourteen words (11%).
Example:
1. communist /kəmjənist/ 2. formula /fəmjələ/

u in the combination -nu- is pronounced as /\jə/ and occurs in eight words (6.3%).
Example:
1. diminutive /dɪmɪn\jətɪv/ 2. monument /mən\jəmənt/

u in the combination -ou- is pronounced as /\jə/ and occurs only in one word (0.8%).
Example:
1. behavioural /brəhəv\jərəl/

u in the combination -pu- is pronounced as /\jə/ and occurs in nineteen words (15%).
Example:
1. deputy /dɪp\jəti/ 2. amputate /æmpl\jətət/
u in the combination -su- is pronounced as /jʊə/ and occurs only in four words (3.1%).

Example:
1. censure /sensjʊə/ 2. insular /ɪnsjʊələ/

u in the combination -tu- is pronounced as /jʊə/ and occurs only in two words (1.6%).

Example:
1. spatula /spaetjʊələ/ 2. tarantula /təræntjʊələ/

u in the combination -vu- is pronounced as /jʊə/ and occurs only in one word (0.8%).

Example:
1. ovulate /ɒvɪələt/

-bu-, -cu-, -du-, -gu-, -hu-, -lu-, -mu-, -nu-, -ou-, -pu-, -su-, -tu-, -vu- are the grapheme combinations having single to sequence correspondence in medially after occurrence for the grapheme u.

The grapheme u in the combinations of -cu-, -eu-, -fu-, -lu-, -mu-, -nu-, -pu-, -tu- is pronounced as /jʊə/.

u in the combination -cu- is pronounced as /jʊə/ and occurs in six words (27.3%).

Example:
1. insecure /ɪnsɪkjuə/ 2. procure /prəkjuə/

u in the combination -eu- is pronounced as /jʊə/ and occurs in five words (22.7%).
Example:
1. neuron /njuərən/ 2. neurosis /njuərəsɪs/

u in the combination -fu- is pronounced as /juə/ and occurs only in one word (4.5%).

Example:
1. infuriate /ɪnˈfjʊərɪteɪt/

u in the combination -lu- is pronounced as /juə/ and occurs only in one word (4.5%).

Example:
1. allure /əˈljuə/

u in the combination -mu- is pronounced as /juə/ and occurs only in one word (4.5%).

Example:
1. mural /ˈmjuərəl/

u in the combination -nu- is pronounced as /juə/ and occurs only in one word (4.5%).

Example:
1. manure /ˈmænjuər/ 2. mature /ˈmeɪtjuər/ 2. mature

u in the combination -pu- is pronounced as /juə/ and occurs only in one word (9%).

Example:
1. spurious /ˈspjuərɪəs/

u in the combination -tu- is pronounced as /juə/ and occurs in five words (22.7%).

Example:
1. maturity /mætjuəˈreɪtɪ/ 2. mature /ˈmeɪtjuər/
-cu-, -eu-, -fu-, -lu-, -mu-, -nu-, -pu-, -tu- are the grapheme combinations having single to sequence correspondence in medially after occurrence for the grapheme u.

5.3.2. w = /ju:/, /ju/ Medially before Occurrence

The grapheme w in the combinations of -wa-, -wb-, -wc-, -we-, -wf-, -wl-, -wp-, -ws-, -wt- is pronounced as /ju:/.

w in the combination -wa- is pronounced as /ju:/ and occurs only in three words (14.3%).

Example:

1. steward /stjuːd/ 2. stewardess /stjuːdəs/

w in the combination -wb- is pronounced as /ju:/ and occurs only in one word (4.8%).

Example:

1. newborn /njuːboːn/

w in the combination -wc- is pronounced as /ju:/ and occurs only in one word (4.8%).

Example:

1. newcomer /njuːkəmər/

w in the combination -we- is pronounced as /ju:/ and occurs only in two words (9.5%).

Example:

1. renewed /rɪnjuːd/ 2. viewer /vjuːər/

w in the combination -wf- is pronounced as /ju:/ and occurs only in one word (4.8%).
Example:
1. newfound /njʊːfaʊnd/

   w in the combination -wl- is pronounced as /ju:/ and occurs only in one word (4.8%).

Example:
1. newly /njuːli/

   w in the combination -wp- is pronounced as /ju:/ and occurs only in one word (4.8%).

Example:
1. viewpoint /vjuːpɒɪnt/

   w in the combination -ws- is pronounced as /ju:/ and occurs in ten words (47.6%).

Example:
1. newsagent /njuːzɛndʒənt/ 2. newscast /njuːzkaːst/

   w in the combination -wt- is pronounced as /ju:/ and occurs only in one word (4.8%).

Example: 1. pewter /pjuːtər/

   -wa-, -wb-, -we-, -wf-, -wl-, -wp-, -ws-, -wt- are the grapheme combinations having single to sequence correspondence in medially before occurrence for the grapheme w.

   The grapheme w in the combinations of -we- is pronounced as /ju/.

   w in the combination -we- is pronounced as /ju/ and occurs only in one word (100%).

Example:
1. interviewee /ɪntəvjuː/
-we- is the grapheme combination having single to sequence correspondence in medially before occurrence for the grapheme w.

5.3.3. w = /juː/, /ju/ Medially after Occurrence

The grapheme w in the combinations of -ew- is pronounced as /juː/.

w in the combination -ew- is pronounced as /ju:/ and occurs in twenty-one words (100%).

Example:
1. newly /njuːli/ 2. viewer /vjuːˈər/ 

-ew- is the grapheme combination having single to sequence correspondence in medially after occurrence for the grapheme w.

The grapheme w in the combinations of -ew- is pronounced as /juː/.

w in the combination -ew- is pronounced as /ju/ and occurs only in one word (100%).

Example:
1. interviewee /ɪntɪˈvjuː/ 

-ew- is the grapheme combination having single to sequence correspondence in medially after occurrence for the grapheme w.

5.3.4. w = /juː/ Final Occurrence*

The grapheme w in the combinations of -ew# is pronounced as /juː/.

w in the combination -ew# is pronounced as /ju:/ and occurs in twenty words (100%).

Example:
1. askew /ɑːskjuː/ 2. knew /njuː/ 

-ew# is the grapheme combination having single to sequence correspondence in final occurrence for the grapheme w.
5.4.1. $x = /\text{eks}/, /\text{eks-kris}/$ Initial Occurrence

The grapheme $x$ in the combinations of $\text{xm-}$ is pronounced as $/\text{eks-kris}/$.

$x$ in the combination $\text{xm-}$ is pronounced as $/\text{eks}/$ and occurs only in one word (100%).

Example:
1. X-mas $/\text{eksmas/}$ or 2. X-mas $/\text{kristmas/}$

$\text{xm-}$ is the grapheme combination having single to sequence correspondence in initial occurrence for the grapheme $x$.

The grapheme $x$ in the combinations of $\text{xr-}$ is pronounced as $/\text{eks}/$.

$x$ in the combination $\text{xr-}$ is pronounced as $/\text{eks}/$ and occurs only in one word (100%).

Example: 1. X-ray $/\text{ekstry}/$

$\text{xr-}$ is the grapheme combination having single to sequence correspondence in initial occurrence for the grapheme $x$.

5.4.2. $x = /\text{ks}/, /\text{gz}/, /\text{kf}/, /\text{gy}/$ Medially before Occurrence

The grapheme $x$ occurs medially before in thirteen combinations. These thirteen combinations are $-\text{xa-}, -\text{xc-}, -\text{xe-}, -\text{xf-}, -\text{xh-}, -\text{xi-}, -\text{xl-}, -\text{xo-}, -\text{xp-}, -\text{xq-}, -\text{xt-}, -\text{xu-}, -\text{xy-}$ and they occur in two hundred and thirty-eight words. There are no words with medially before occurrence of $-\text{xb-}, -\text{xd-}, -\text{xg-}, -\text{xj-}, -\text{xk-}, -\text{xm-}, -\text{xn-}, -\text{xr-}, -\text{xr-}, -\text{xv-}, -\text{xw-}, -\text{xx-}, -\text{xz-}$-combinations.

The grapheme $x$ in the combinations of $-\text{xc-}, -\text{xe-}, -\text{xf-}, -\text{xh-}, -\text{xi-}, -\text{xl-}, -\text{xo-}, -\text{xp-}, -\text{xq-}, -\text{xt-}, -\text{xu-}, -\text{xy-}$ is pronounced as $/\text{ks}/$.

$x$ in the combination $-\text{xc-}$ is pronounced as $/\text{ks}/$ and occurs in thirty-four words (18.6%).
Example:
1. excavate /ekskəvət/ 2. excellent /eksˈslənt/

x in the combination -xe- is pronounced as /ks/ and occurs in eighteen words (9.8%).
Example:
1. axe /æks/ 2. fixed /ˈfɪkst/

x in the combination -xf- is pronounced as /ks/ and occurs only in one word (0.5%).
Example:
1. tax-free /tekˈfriː/

x in the combination -xh- is pronounced as /ks/ and occurs only in three words (1.6%).
Example:
1. exhibition /eksɪˈbɪʃn/ 2. exhale /eksˈheɪl/

x in the combination -xi- is pronounced as /ks/ and occurs in twenty-three words (12.6%).
Example:
1. anorexia /ænəˈreksɪə/ 2. dyslexia /dɪsˈleksɪə/

x in the combination -xl- is pronounced as /ks/ and occurs only in one word (0.5%).
Example: 1. axle /æksl/

x in the combination -xo- is pronounced as /ks/ and occurs only in three words (1.6%).
Example:
1. exodus /eksˈdəs/ 2. exorcism /eksəˈsɪzm/
x in the combination -xp- is pronounced as /ks/ and occurs in fifty-seven words (31.1%).
Example:
1. expedite /ekspridaiť/ 2. expert /eksp3:t/ 

x in the combination -xq- is pronounced as /ks/ and occurs only in one word (0.5%).
Example:
1. exquisite /ikskwizit/ 

x in the combination -xt- is pronounced as /ks/ and occurs in thirty-six words (19.7%).
Example:
1. context /kontekst/ 2. extra /ekstrə/ 

x in the combination -xu- is pronounced as /ks/ and occurs only in one word (0.5%).
Example:
1. mix-up /miksAp/ 

x in the combination -xy- is pronounced as /ks/ and occurs in five words (2.7%).
Example:
1. galaxy /gæləksi/ 2. oxygen /oksɪdʒən/ 

-xc-, -xe-, -xf-, -xh-, -xi-, -xl-, -xo-, -xp-, -xq-, -xt-, -xu-, -xy- are the grapheme combinations having single to sequence correspondence in medially before occurrence for the grapheme w.

The grapheme x in the combinations of -xa-, -xe-, -xh-, -xi-, -xo-, -xu- is pronounced as /gz/.
x in the combination -xa- is pronounced as /gz/ and occurs in seventeen words (39.5%).
Example:
1. exacerbate /ɪgzaˈseɪbət/ 2. exact /ɪgzaˈækt/

x in the combination -xe- is pronounced as /gz/ and occurs in six words (13.9%).
Example:
1. exert /ɪgz3:t/ 2. exertion /ɪgz3:ʃn/

x in the combination -xh- is pronounced as /gz/ and occurs in ten words (23.2%).
Example:
1. exhaust /ɪgzɔnst/ 2. exhausted /ɪgzɔ:stid/

x in the combination -xi- is pronounced as /gz/ and occurs only in four words (9.3%).
Example:
1. existence /ɪgzɪstˈns/ 2. exist /ɪgzsɪt/

x in the combination -xo- is pronounced as /gz/ and occurs only in three words (7%).
Example:
1. exonerate /ɪgzənˈreɪt/ 2. exotic /ɪgzəˈtɪk/

x in the combination -xu- is pronounced as /gz/ and occurs only in three words (7%).
Example:
1. exuberant /ɪgzjuˈbɜrnt/ 2. exude /ɪgzjuːd/
-xa-, -xe-, -xh-, -xi-, -xo-, -xu- are the grapheme combinations having single to sequence correspondence in **medially before** occurrence for the grapheme w.

The grapheme x in the combinations of -xi-, -xu- is pronounced as \(/kʃ\).  
ex in the combination -xi- is pronounced as \(/kʃ\) and occurs in four words (36.4%).
Example:  
1. complexion /ˈkɑmplɛks/  
2. noxious /ˈnɔksɪʃəs/  
ex in the combination -xu- is pronounced as \(/kʃ\) and occurs in seven words (63.6%).
Example:  
1. bisexual /ˈbɪsɛkʃuəl/  
2. luxury /ˈluːʃəri/  
-xi-, -xu- are the grapheme combinations having single to sequence correspondence in **medially before** occurrence for the grapheme w.

The grapheme x in the combinations of -xu- is pronounced as \(/gʒ\).  
ex in the combination -xu- is pronounced as \(/gʒ\) and occurs only in one word (100%).
Example:  
1. luxurious /ˈlʌksjʊərɪs/  
-xu- is the grapheme combination having single to sequence correspondence in **medially before** occurrence for the grapheme w.
Table showing grapheme combination of x and corresponding phoneme in the medially before occurrence

<table>
<thead>
<tr>
<th>x</th>
<th>/ks/</th>
<th>/gz/</th>
<th>/kf/</th>
<th>/g5/</th>
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</table>
Graphs showing medially before occurrence and corresponding phonemes of grapheme x

![Bar chart showing number of words for different phonemes](chart1.png)

- /ks/ 183, 77%
- /gz/ 43, 18%
- /kj/ 11, 5%
- /g3/ 1, 0.1%

![Pie chart showing distribution of phonemes](chart2.png)

- /ks/ 183, 77%
- /gz/ 43, 18%
- /kj/ 11, 5%
- /g3/ 1, 0.1%
The above graphs show the number of words having x grapheme medially before occurrence and their corresponding phonemes. Phoneme sequence /ks/ occurs medially before in one hundred and eighty-three words (77%) which is the maximum. Phoneme sequence /gz/ occurs in forty-three words (18%), phoneme sequence /kf/ occurs in eleven words (5%) and phoneme sequence /gs/ occurs only in one word (0.1%) which is the least. Totally two hundred and thirty-eight words have grapheme x in medially before occurrence.

5.4.3. x = /ks/, /kf/ Medially after Occurrence

The grapheme x in the combinations of -ax-, -ex-, -ix-, -nx-, -ox-, -rx- is pronounced as /ks/.

x in the combination -ax- is pronounced as /ks/ and occurs in ten words (19.2%).
Example:
1. maxim /meaksim/ 2. relaxed /rilaekst/

x in the combination -ex- is pronounced as /ks/ and occurs in eighteen words (34.6%).
Example:
1. anorexia /aen*reksia/ 2. context /kontekst/

x in the combination -ix- is pronounced as /ks/ and occurs in fourteen words (26.9%).
Example:
1. fixation /fiksetʃən/ 2. fixed /fikst/
x in the combination -ox- is pronounced as /ks/ and occurs in eight words (15.4%).
Example:
1. approximate /əprəksɪmət/ 2. toxin /tɔksɪn/

x in the combination -rx- is pronounced as /ks/ and occurs only in two words (3.8%).
Example:
1. Marxism /mɑːksɪζm/ 2. Marxist /mɑːksɪst/
-ax-, -ex-, -ix-, -nx-, -ox-, -rx- are the grapheme combinations having single to sequence correspondence in medially after occurrence for the grapheme x.

The grapheme x in the combinations of -ex-, -ix-, -ox- is pronounced as /kʃ/.

x in the combination -ex- is pronounced as /kʃ/ and occurs in seven words (58.3%).
Example:
1. bisexual /baisɛkʃʊəl/ 2. sexual /sɛkʃʊəl/

x in the combination -ix- is pronounced as /kʃ/ and occurs only in one word (8.3%).
Example:
1. crucifixion /kruːsɪfɪkʃn/

x in the combination -nx- is pronounced as /kʃ/ and occurs only in one word (8.3%).
Example:
1. anxious /æŋkʃəs/
x in the combination -ox- is pronounced as /kj/ and occurs only in three words (25%).

Example:
1. noxious /nɔksʃəs/

-ex-, -ix-, -ox- are the grapheme combinations having single to sequence correspondence in medially after occurrence for the grapheme x.

5.4.4. x = /ks/ Final Occurrence

The grapheme x occurs finally in four combinations. These four combinations are -ax#, -ex#, -ix#, -ox# and they occur in forty-five words. There are no words with final occurrence of -bx#, -cx#, -dx#, -fx#, -gx#, -hx#, -jx#, -kx#, -lx#, -mx#, -nx#, -px#, -qx#, -rx#, -sx#, -ux#, -vx#, -wx#, -xx#, -yx# -tx#, -zx# combinations.

The grapheme x in the combinations of -ax#, -ex#, -ix#, -ox# is pronounced as /ks/.

x in the combination -ax# is pronounced as /ks/ and occurs in eleven words (24.4%).

Example:
1. climax /klaimaeks/
2. lax /laeks/

x in the combination -ex# is pronounced as /ks/ and occurs in twelve words (26.7%).

Example:
1. annex /əneks/
2. apex /əpeks/

x in the combination -ix# is pronounced as /ks/ and occurs in nine words (20%).
Example:

1. affix /æfɪks/ 2. cervix /sɜːvɪks/

x in the combination -ox# is pronounced as /ks/ and occurs in thirteen words (28.9%).

Example:

1. box /bɒks/ 2. gearbox /ɡɪərbox/

-ax#, -ex#, -ix#, -ox# are the grapheme combinations having single to sequence correspondence in final occurrence for the grapheme x.
Table showing grapheme combination of x and corresponding phoneme in the final occurrence

<table>
<thead>
<tr>
<th>X</th>
<th>/ks/</th>
<th>Total</th>
</tr>
</thead>
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</table>
5.5.2. $z = /ts/$ Medially before Occurrence

The grapheme $z$ in the combinations of -$zo-$ is pronounced as /ts/.

$z$ in the combination -$zo-$ is pronounced as /ts/ and occurs only in two words (100%).

Example:

1. schizophrenia /skɪtsəufri:nɪə/ 2. schizophrenic /skɪtsəufri:nɪk/

-zo- is the grapheme combination having single to sequence correspondence in medially before occurrence for the grapheme $z$. 