

Morning Reading

Grade 11 · AS · Week 15

Read each word aloud, then copy the English word three times.

Reading

Read the passage aloud twice.

Before writing code, a programmer writes a plan. **Pseudocode** looks like simple English but has the shape of a program: INPUT the marks, IF a mark is over 50 THEN count it, OUTPUT the total. Every program is built from just three shapes: **sequence** (one step after another), **selection** (choosing a path), and **iteration** (a **loop** repeating steps). Complex problems are cut into smaller pieces first, a method called **stepwise refinement**: plan the trip, then plan each day, then each morning. Choosing the right **data type** matters too: whole numbers, decimals, text, or true/false.

In the electronics lab you built a **potential divider**: two resistors sharing a voltage. Replace one with a **thermistor** and the output voltage changes with temperature, the heart of a thermostat. Replace it with a **light-dependent resistor** and you have built the sensor that switches streetlights on at dusk.

Governments plan too. **Fiscal policy** sets taxes and spending; spend more than you collect and there is a **budget deficit**, which adds to the **national debt**.

Talk about it :

1. Write pseudocode, three lines or more, for making instant noodles.
2. A streetlight turns on at dusk by itself. Explain the chain: light, sensor, switch.

Physics

Topics 3–11 · Dynamics, D.C. circuits, Particle physics

↳ comparator			
/kəmˈpæreɪtə/			
— threshold			
/ˈθreʃəʊld/			
≡ potentiometer			
/pəˈtentiˈɒmɪtə/			
↔ jockey			
/ˈdʒɒki/			
↻ galvanometer			
/ˌɡælvəˈnɒmɪtə/			
⦿ null method			
/nʌlˈmeθəd/			
⊙ alpha particle α			
/ˈælfəˈpɑːtɪkl/			
↷ deflection			
/dɪˈflekʃn/			
⊙ nucleus			
/ˈnjuːklɪəs/			
+ proton			
/ˈprəʊtɒn/			
○ neutron			
/ˈnjuːtrɒn/			
⊗ nuclide			
/ˈnjuːklaɪd/			
# proton number			
/ˈprəʊtɒnˈnʌmbə/			
Σ nucleon number			
/ˈnjuːklɪənˈnʌmbə/			
⊙ nucleon			
/ˈnjuːklɪən/			

 isotope			
<i>/ˈaɪsəʊtəʊp/</i>			
 unified atomic mass unit			
<i>/ˈjuːnɪfaɪd əˈtɒmɪk məs ˈjuːnɪt/</i>			
 radiation			
<i>/ˌreɪdɪˈeɪʃn/</i>			
 radioactive			
<i>/ˌreɪdɪəʊˈæktɪv/</i>			
 ionising			
<i>/ˈaɪənaɪzɪŋ/</i>			

Chemistry

Topics 13–14 · An introduction to AS Level organic chemistry, Hydrocarbons

 positional isomerism			
<i>/pəˈzɪʃənl ˈaɪsəməɪzəm/</i>			
 functional group isomerism			
<i>/ˈfʌŋkʃənl grʊːp ˈaɪsəməɪzəm/</i>			
 stereoisomerism			
<i>/ˈsteriəʊsəməɪzəm/</i>			
 geometrical isomerism			
<i>/ˌdʒiːəʊˈmetrɪkl ˈaɪsəməɪzəm/</i>			
 restricted rotation			
<i>/rɪˈstrɪktɪd rəʊˈteɪʃn/</i>			
 cis			
<i>/sɪs/</i>			
 trans			
<i>/trænz/</i>			
 optical isomerism			
<i>/ˈɒptɪkl ˈaɪsəməɪzəm/</i>			

 chiral			
<i>/ˈkaɪrəl/</i>			
 chiral centre			
<i>/ˈkaɪrəl ˈsentə/</i>			
 enantiomers			
<i>/eˈnæntɪəməz/</i>			
 hydrogenation			
<i>/haɪˈdrɒdʒəneɪʃn/</i>			
 alkene			
<i>/ˈælkɪːn/</i>			
 cracking			
<i>/ˈkrækɪŋ/</i>			
 combustion			
<i>/kəmˈbʌstʃn/</i>			
 complete combustion			
<i>/kəmˈpliːt kəmˈbʌstʃn/</i>			
 incomplete combustion			
<i>/ɪŋkəmˈpliːt kəmˈbʌstʃn/</i>			
 carbon monoxide			
<i>/ˈkɑːbən mʌˈnɒksaɪd/</i>			

Biology

Topic 8 · Transport in mammals

 vein			
<i>/veɪn/</i>			
 pulmonary artery			
<i>/ˈpʌlmənəri ˈɑːtəri/</i>			
 pulmonary vein			
<i>/ˈpʌlmənəri veɪn/</i>			
 aorta			
<i>/eɪˈɔːtə/</i>			

 vena cava <i>/ˈviːnə ˈkɑːvə/</i>			
 muscle <i>/ˈmʌsl/</i>			
 elastic <i>/ɪˈlæstɪk/</i>			
 lumen <i>/ˈluːmən/</i>			
 valve <i>/vælv/</i>			
 red blood cell <i>/red blʌd sel/</i>			
 monocyte <i>/ˈmɒnəʊsaɪt/</i>			
 neutrophil <i>/ˈnjuːtrəfɪl/</i>			
 lymphocyte <i>/ˈlɪmfəsaɪt/</i>			
 plasma <i>/ˈplæzmə/</i>			
 tissue fluid <i>/ˈtɪʃuː ˈfluːɪd/</i>			
 oxygen dissociation curve <i>/ˈɒksɪdʒn dɪˌsəʊsɪˈeɪʃn kɜːv/</i>			
 saturation <i>/ˌsætʃəˈreɪʃn/</i>			
 partial pressure <i>/ˈpɑːʃl ˈpreʃə/</i>			
 Bohr shift <i>/ˈbəʊə ʃɪft/</i>			
 carbonic anhydrase <i>/kɑːˈbɒnɪk ˈænhædreɪz/</i>			

 hydrogencarbonate ion <i>/ˈhaɪdrədʒɛŋkɑːbɒneɪt ˈaɪən/</i>			
 chloride ion <i>/ˈklɔːraɪd ˈaɪən/</i>			

Mathematics

Topics 4–5 · Mechanics, Probability & Statistics 1

 thrust <i>/θrʌst/</i>			
 air resistance <i>/eə rɪˈzɪstəns/</i>			
 Probability & Statistics <i>/ˌprɒbəˈbɪlɪtɪ ænd stəˈtɪstɪks/</i>			
 stem-and-leaf diagram <i>/stem ænd liːf ˈdaɪəgræm/</i>			
 box-and-whisker plot <i>/bɒks ænd ˈwɪskə plɒt/</i>			
 histogram <i>/ˈhɪstəgræm/</i>			
 cumulative frequency <i>/ˈkjuːmjələtɪv ˈfriːkwənsi/</i>			
 central tendency <i>/ˈsentrəl ˈtendənsi/</i>			
 mean <i>/miːn/</i>			
 median <i>/ˈmiːdiən/</i>			

Further Mathematics

Topic 4 · Further Probability & Statistics

% percentiles /pə'sentailz/
≡ median /ˈmiːdiːən/
⚖ hypothesis test /haɪ'pɒθəsis test/
[] confidence interval /ˈkɒnfɪdəns ˈɪntəvl/

Computer Science

Topics 11–12 · Programming, Software Development

□ local variable /ˈləʊkl ˈveəriəbl/
⊕ global variable /ˈɡləʊbl ˈveəriəbl/
🕒 scope /skəʊp/
✍ signature /ˈsɪɡnɪtʃə/
🔒 invariant /ɪn'veəriənt/
🔄 development life cycle /dɪ'veləpmənt laɪf ˈsaɪkl/
📋 requirements /rɪ'kwaɪəmənts/
⏴ waterfall /ˈwɔːtəfɔːl/
🔄 iterative model /ɪ'tərətɪv ˈmɒdl/

⚡ Rapid Application Development /ˈræpɪd ˌæplɪˈkeɪʃn dɪ'veləpmənt/
🛠 prototype /ˈprəʊtəʊtaɪp/
🔄 Agile /ædʒaɪl/
< > implementation /ˌɪmplɪmən'teɪʃn/
🔧 maintenance /meɪntənəns/
🗝 structure chart /ˈstrʌktʃə tʃɑːt/
🔄 state-transition diagram /steɪt træn'sɪʃn ˈdaɪagræm/
⦿ states /steɪts/
⊗ syntax error /ˈsɪntæks ˈerə/
⚠ run-time error /rʌn taɪm ˈerə/
⚡ logic error /ˈlɒdʒɪk ˈerə/
🏃 dry run /draɪ rʌn/
🚶 walkthrough /ˈwɔːkθruː/
📦 white-box testing /waɪt bɒks ˈtestɪŋ/
📦 black-box testing /blæk bɒks ˈtestɪŋ/

 integration testing			
<i>/,ɪntɪˈɡreɪʃn ˈtestɪŋ/</i>			
 alpha testing α			
<i>ˈælfə ˈtestɪŋ/</i>			
 beta testing β			
<i>ˈbi:tə ˈtestɪŋ/</i>			
 acceptance testing			
<i>/əkˈseptəns ˈtestɪŋ/</i>			

Economics

Topics 5–6 · Government macroeconomic intervention, International economic issues

= proportional tax			
<i>/prəˈpɔːʃənl tæks/</i>			
 regressive tax			
<i>/rɪˈɡresɪv tæks/</i>			
 expansionary			
<i>/ekˈspænjənəri/</i>			
 contractionary			
<i>/kənˈtrækʃənəri/</i>			
 crowding out			
<i>ˈkraʊdɪŋ aʊt/</i>			
 monetary policy			
<i>ˈmənɪtəri ˈpɒlɪsi/</i>			
 central bank			
<i>ˈsentrəl bæŋk/</i>			
% interest rate			
<i>ˈɪntrest reɪt/</i>			
 money supply			
<i>ˈmʌni səˈplaɪ/</i>			
 transmission mechanism			
<i>/trænˈsmɪʃn ˈmekənɪzəm/</i>			

 supply-side policy			
<i>/səˈplaɪ saɪd ˈpɒlɪsi/</i>			
 privatisation			
<i>/ˌpraɪvətəɪˈzeɪʃn/</i>			
 deregulation			
<i>/diːˌregjəˈleɪʃn/</i>			
 training			
<i>ˈtreɪnɪŋ/</i>			
 infrastructure			
<i>ˈɪnfraˌstrʌktʃə/</i>			
 international trade			
<i>/ɪntəˈnæʃənl treɪd/</i>			