

Scobol Solo 2019

Packet 9 (Round 9)



1. In this system, “backslash b” represents a boundary between words. This system can use numeric quantifiers between curly braces, and uses the caret and dollar-sign characters as line anchors. The first word of this system’s name comes from a type of language that can be recognized by a finite state machine. The **grep** utility searches files using this technology. In this system, a period represents a wildcard for any single character besides the newline, and an asterisk represents repeating something zero or more times, so “dot star” matches any line of text. Name this system used for pattern-matching strings.

Answer: regular expressions [accept regexes or regexps; prompt on text patterns]

2. In one play by this writer, a 75-year-old farmer marries a 35-year-old woman and brings her back to his farm, where she meets his sons Simeon, Peter, and Eben and has an affair with Eben. This playwright wrote about the result of that affair, a baby who is killed by its mother, Abbie. In addition to that work, this author wrote a play in which Mary says “The past is the present, isn’t it? It’s the future, too.” Mary’s sons are Jamie, who is an alcoholic, and Edmund, who has tuberculosis. This writer described Mary’s morphine addiction. Name this playwright of *Desire Under the Elms* who wrote about the Tyrone family in *Long Day’s Journey into Night*.

Answer: Eugene (Gladstone) O’Neill

3. According to some Taoists, these people are supported by Tu’er Shen, whose name means “Rabbit God” and which is the spirit of Hu Tianbao [hoo tee-ahn-bao]. The Metropolitan Community Church was established to support Christian people of this type. Pope Francis criticized a so-called “lobby” of these people in the Vatican but also replied to a question about them by asking “Who am I to judge?”. Two verses in the Book of Leviticus have been used to claim that these people are sinful. Name these people who as a group have been historically shunned by many religions and referred to as “Sodomites” [SAH-duh-“mites”].

Answer: homosexual people or gay people or homosexuals or gays [prompt on queer people or LGBTQ people]

4. During this incident, U.S. Marine Smedley Butler was shot in the thigh while serving in the Gaselee [GAYSS-lee] Expedition. During this incident a man was flogged and a boy killed by Clemens von Ketteler, who in turn was killed by a man who claimed to be under orders to kill every foreigner. Some of the fighting in this incident was done by a group of Muslims called the Kansu Braves. During this incident, the Eight-Nation Alliance was successful during the Siege of the International Legations. This incident is named after a nickname of The Righteous and Harmonious Fists, who were supported by Empress Dowager Cixi [TSEE-shee]. Name this incident that began in 1899 in China.

Answer: Boxer Rebellion or Boxer Uprising [or Yihetuan Movement; accept Gaselee Expedition before it is mentioned]

5. A tumor in this organ can cause Cushing's syndrome, and other problems with this organ can cause Addison's disease. This organ produces D.H.E.A., which is used elsewhere in the body to produce testosterone and estrogen. This gland contains a zona glomerulosa [ZOH-nah gloh-mair-yoo-LOH-suh] that releases the hormone aldosterone [al-DAWSS-tuh-rohn]. The zona fasciculata [fass-IK-yoo-LAY-tuh] in this gland can increase blood sugar by releasing cortisol. These glands are sometimes called supra-renal [soop-ruh-REE-nul] because they are just above the kidneys. Name these glands which, as their name suggests, release a hormone that is an important part of the fight-or-flight response.

Answer: adrenal glands [accept suprarenal glands before "suprarenal"] (The hormone is adrenaline.)

6. One of the characters in this novel reads the obscure poem "Luriana Lurilee", which ties in with another character's desire to move a tree to the middle of a painting. In the second section of this novel, a man stretches out his arms, but they are empty because his wife died the night before. Also in this novel's brief second section, Prue dies in childbirth, and Andrew dies when a shell explodes in France during World War I. At the end of this novel, Lily Briscoe is satisfied with her painting. Name this novel about the Ramsay family on the Isle of Skye, written by Virginia Woolf.

Answer: To the Lighthouse

7. This person wrote "The care of souls cannot belong to the civil magistrate, because his power consists only in outward force." Despite the overall theme of that letter, this person wrote that atheists cannot be tolerated. In another work, this person wrote "The end of law is not to abolish or restrain, but to preserve and enlarge freedom." In that work, this person refuted Robert Filmer's *Patriarcha* [pah-tree-AR-kah]. This person also wrote "All ideas come from sensation or reflection", adding "Let us then suppose the mind to be white paper", a concept he called the *tabula rasa*. Name this English empiricist who wrote *A Letter Concerning Toleration*, *Two Treatises of Government*, and *An Essay Concerning Human Understanding*.

Answer: John Locke

8. The third and final movement of this composer’s third and final violin sonata has a theme that alternates between two notes on G and two on middle C, and it has another theme that alternates a six-beat note with two quarter notes. Another piece by this composer uses a flute and oboe to depict the sun rising in the Moroccan desert. That piece, which is the first movement in a set of two four-movement suites of incidental music by this composer, is “Morning Mood”. Name this composer whose “In the Hall of the Mountain King” is a part of his *Peer Gynt* Suite.

Answer: Edvard (Hagerup) Grieg [grieg]

9. This leader negotiated the Treaty of Abernethy with Malcolm III of Scotland, which made it more difficult for Edgar Atheling to claim the throne. This leader had Waltheof [WALL-thee-awff] of Northumbria executed after Waltheof confessed to Archbishop Lanfranc [lawn-frawnk] support for the Revolt of the Earls. This king organized a survey of all English landholdings to determine possessions before and after the Norman conquest, which was published in the Domesday [“doomsday”] Book. Name this Norman king of England who gained power after defeating Harold Godwinson at the Battle of Hastings.

Answer: William the Conqueror [or William I or William the Great or William the Bastard; prompt on William]

10. The Cayley-Hamilton theorem uses a matrix as an input to this type of function, giving a result of 0. The eigenvalues [“EYE-gun-values”] of a matrix are solutions to the “characteristic” example of this kind of function derived from the matrix. Vieta’s formulas relate the products and sums of solutions to this kind of function. Taylor’s theorem is about using this kind of function to approximate any smooth function. Synthetic division is used to divide these functions. The rational root theorem is used to find possible solutions to this kind of function. Name these functions that can be classified by their degree into categories like quadratic, cubic, and quartic.

Answer: polynomials [accept characteristic polynomial(s) before “Vieta’s”; ask for a *less-specific* answer if the player answers quadratic before “Taylor’s theorem”]

11. In one novel set in this country, Dr. Durrani is a mathematician whose son falls in love with a woman of a different religion. Another novel set in this country is about Chacko, who returns to this country after being divorced in England, and Ammu, who returns home after giving birth to the twins Rahel and Estha. An ancient text from this country describes the marriage between Damayanti and King Nala. Name this country that is the setting of *The God of Small Things* by Arundhati [uh-ROON-duh-tee] Roy and *A Suitable Boy* by Vikram Seth, and whose Sanskrit epics include the *Mahabharata*.

Answer: (Republic of) India [or Bharat (Ganarajya)]

12. Opposition to this leader has been led by Muharrem Ince [moo-hah-REM IN-chuh], who criticized the commander of Operation Olive Branch in Afrin for being overly supportive of this leader. This leader was criticized by the United States in September 2019 when his country purchased S-400 missiles from Russia. This leader launched an offensive in October 2019 after receiving a letter from President Trump stating: “Don’t be a tough guy. Don’t be a fool!”. The U.S.’s pullout from Syria opened the way for this leader to displace Kurds. Name this president of Turkey.

Answer: Recep Tayyip Erdogan [reh-JEP ty-YIP AIR-doh-wahn]

13. This person told the story of a ship that put out a signal stating “Water, water; we die of thirst!” and received the reply “Cast down your bucket where you are.” This person’s best-selling autobiography described the support he got from Samuel Armstrong of the Hampton Institute, who helped him start a school in 1881. A famous speech this person gave in 1895 stated that African-Americans should receive a basic education and legal due process but should not expect social equality, which became known as the Atlanta Compromise. Name this author of *Up From Slavery* who started the Tuskegee [tus-KEEG-ee] Institute.

Answer: Booker T(aliaferro) Washington

14. The positions of three women on pink ground in the center of one of this artist’s paintings are believed to represent birth, life, and death. Those women are in front of a small bush and large religious sculpture in this artist’s *Day of the God*. Another painting by this artist shows a woman hiding in front of a green statue that depicts Jesus being taken down from the Cross. This artist depicted women praying around Jesus on the cross in a painting named for its dominant color, *The Yellow Christ*. Name this French artist whose *Spirit of the Dead Watching* is one of his many works depicting Tahitian women.

Answer: (Eugène Henri) Paul Gauguin [goh-gan]

15. This phenomenon is used in a hypothetical perpetual motion device whose flaw was explained, in terms of the failure rate of the pawl, by Richard Feynman [“FINE”-mun]. The original explanation for this phenomenon stated that average displacement should be the square root of the quantity 2 times the coefficient of diffusion times time [pause] and described how to use that result to calculate Avogadro’s number. Jean Perrin’s [zhahn pair-an’z] experiments with this phenomenon verified the existence of molecules. Albert Einstein explained this phenomenon in terms of molecular collisions. This phenomenon was first observed in pollen grains floating in water. Name this random motion of particles in a fluid.

Answer: Brownian motion [accept Brownian movement]

16. The second-most populous city in this country was started by Chechens, though its Qasr Amra desert castle predates them. That city is Zarqa [ZAR-kuh]. In the northwest corner of this country there is a city that used to be called “Arabella” and is now called “Irbid”. Much of this country’s western border is formed by a river that shares this country’s name and runs through the Sea of Galilee [GAL-ih-lee], ending at the Dead Sea. That river separates this country from the West Bank, which this country controlled before the Six-Day War. Name this country between Saudi Arabia and Syria whose capital is Amman.

Answer: (Hashemite Kingdom of) Jordan [or (Al-)'Urdunn]

17. A poem addressed *to* this person begins “O come you pious youth! adore the wisdom of thy God” and was written by Jupiter Hammon. A poem *by* this person begins “Celestial choir! enthroned in realms of light, Columbia’s scenes of glorious toils I write.” In that poem, which is addressed to a person, Columbia personifies America. Another poem by this writer begins “’Twas mercy brought me from my Pagan land” and laments “Some view our sable race with scornful eye.” Name this early American poet who wrote “His Excellency General Washington” and “On Being Brought from Africa to America”.

Answer: Phillis Wheatley

18. This artist is believed to have decorated his own tomb, which was found by Alain Zivie in 1996. Some of the works by this artist are believed to portray Kiya and Ay. Ludwig Borchardt [BOR-chart] made the biggest discovery of this artist’s works, which is why this artist’s most famous piece is in a museum in Berlin. That work shows a woman wearing a cap crown with a large diadem [“DIE”-uh-dem]. This artist is believed to have abandoned his studio in Amarna, and some of the works left there portray Akhenaten. Name this sculptor from the New Kingdom of Egypt who made a famous bust of Nefertiti.

Answer: Thutmose [tut-MOH-seh] [or Djhutmose or Thutmosis or Thutmes]

19. In 1958, the Liberal and Conservative Parties in this country made a 16-year power-sharing agreement called the National Front. The agreement fell apart in 1970 when Misael Pastrana Borrero [mee-sah-EL pah-STRAH-nah boh-RAIR-oh] was declared president of this country even though Gustavo Rojas Pinilla [ROH-hahss pee-NEE-yah] probably won the election. Rojas had been this country’s dictator during the 1950s after the assassination of Jorge Eliécer Gaitán [HOR-hay eh-lee-AY-sair “guy”-TAHN]. That period in this country’s history is called “La Violencia [vee-oh-LEN-see-ah]”. Name this country that until 1903 controlled what is now the Republic of Panama, and which in recent decades has dealt with violence from illegal drug money supporting FARC.

Answer: (Republic of) Colombia [or (República de) Colombia]

20. This rule can be derived by combining two expressions for the derivative of internal energy with respect to volume at constant temperature. This rule can also be derived by using the Gibbs-Duhem relation by assuming equal chemical potentials, which makes the molar mass unnecessary. In this rule, the specific entropy is divided by the specific volume; that expression equals the ratio of specific latent heat to the product of temperature and specific volume. This rule can be used to determine the impact of pressure on the boiling point of water. Name this relation that finds the slopes of lines representing phase transitions on a phase diagram.

Answer: Clausius-Clapeyron [KLOW-zee-uss klah-pek-raw] relation or Clausius-Clapeyron equation

This is the end of regulation. Check the score. If it is tied, proceed to overtime tossups. If it is not tied, the game is over.

- ^{TB}21. This country's national anthem—written by its third president, Daniel Bashiel Warner—declares it “A home of glorious liberty, by God's command”. William Tubman, who led this country from 1944 to 1971, is credited with increasing the standing of its indigenous citizens and attracting foreign investment by exporting iron and coffee; its economy had previously depended on rubber. This country's first president was Joseph Jenkins Roberts, who moved from Virginia to this country. This country's history has many parallels with its neighbor, Sierra Leone. Name this West African country started by the American Colonization Society.

Answer: (Republic of) Liberia

If the score is still tied, continue. If it is not tied, the game is over.

- ^{TB}22. After being a professional performer on this instrument for over 50 years, Olivier Messiaen [oh-lee-vee-ay mess-yaw] was commissioned by Ray Ferguson to compose *Livre du Saint-Sacrement* [leev-ruh doo san sah-kreh-maw] for it. Another 20th-century piece for this instrument is Francis Poulenc's [poo-lenk's] concerto for this instrument, strings, and timpani. The harmonium is often referred to as the “pump” or “reed” type of this instrument. The *Fantasia and Fugue in C minor* is one of many works J. S. Bach wrote for this instrument, which he often performed on. Name these very large instruments that are often built into churches and contain many pipes.

Answer: (pipe) organs

If the score is still tied, continue. If it is not tied, the game is over.

- ^{TB}23. One book set mostly at this type of building is *The Last Men Out* by Tom Downey. In *Fahrenheit 451*, the Mechanical Hound lives in a type of this building. Dalmatians are often mascots for these buildings, and they are generally associated with the color red. Name this building where people and equipment wait for an alert that something is burning.

Answer: firehouses or fire stations

There are no more overtime questions available. If the score is still tied, contact the control room for further instructions. If it is not tied, the game is over.