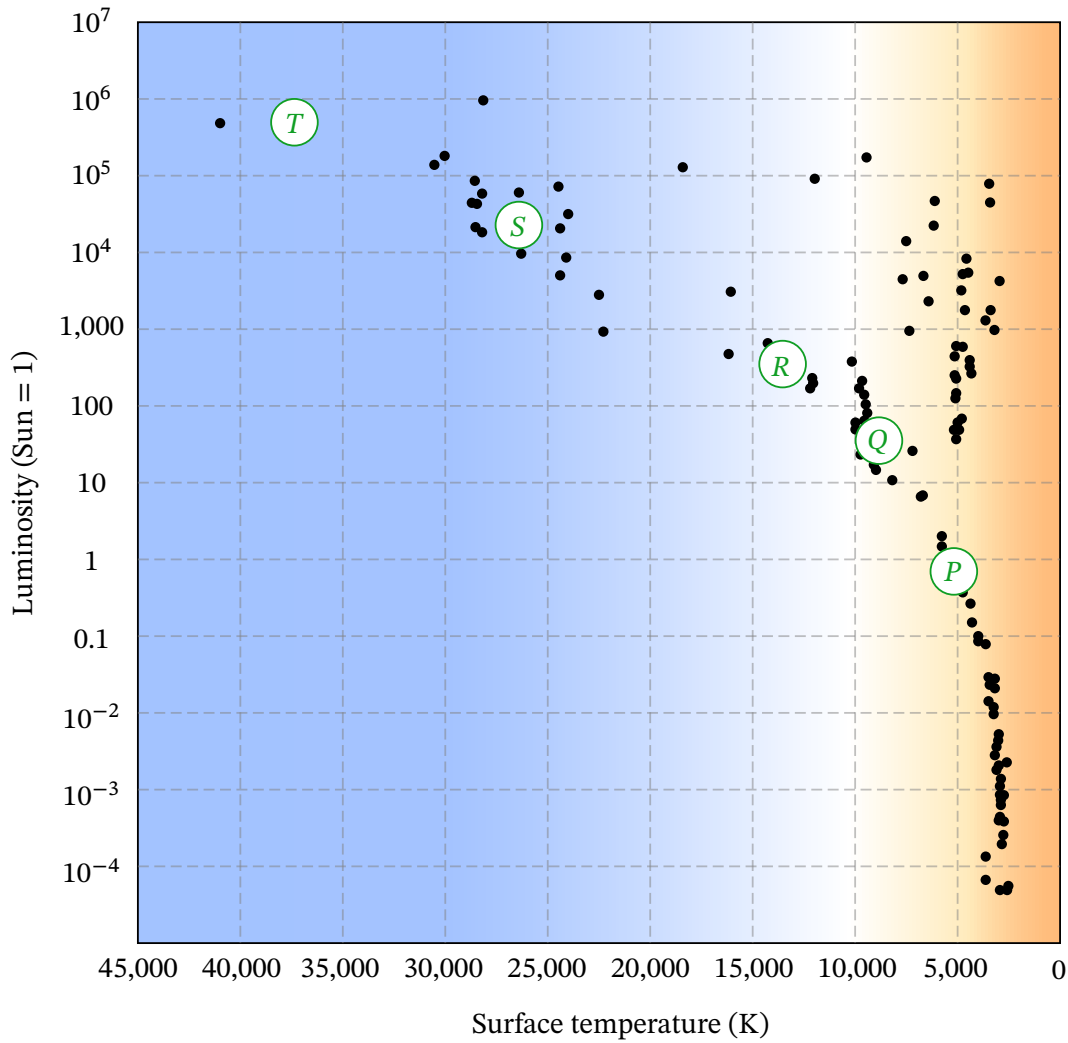


# Worksheet: Hertzsprung-Russell Diagrams

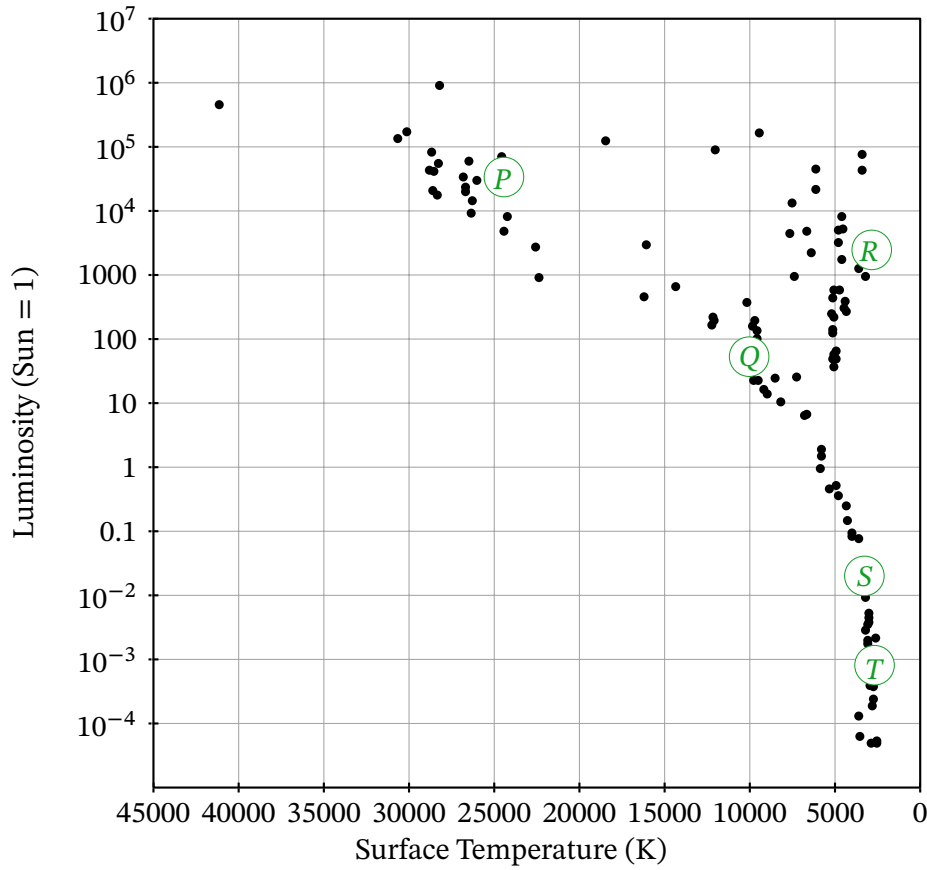


**Q1:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of luminosity and effective temperature. At which of the points *P*, *Q*, *R*, *S*, and *T* might an A-type star appear on the diagram?



- A *R*
- B *P*
- C *S*
- D *T*
- E *Q*

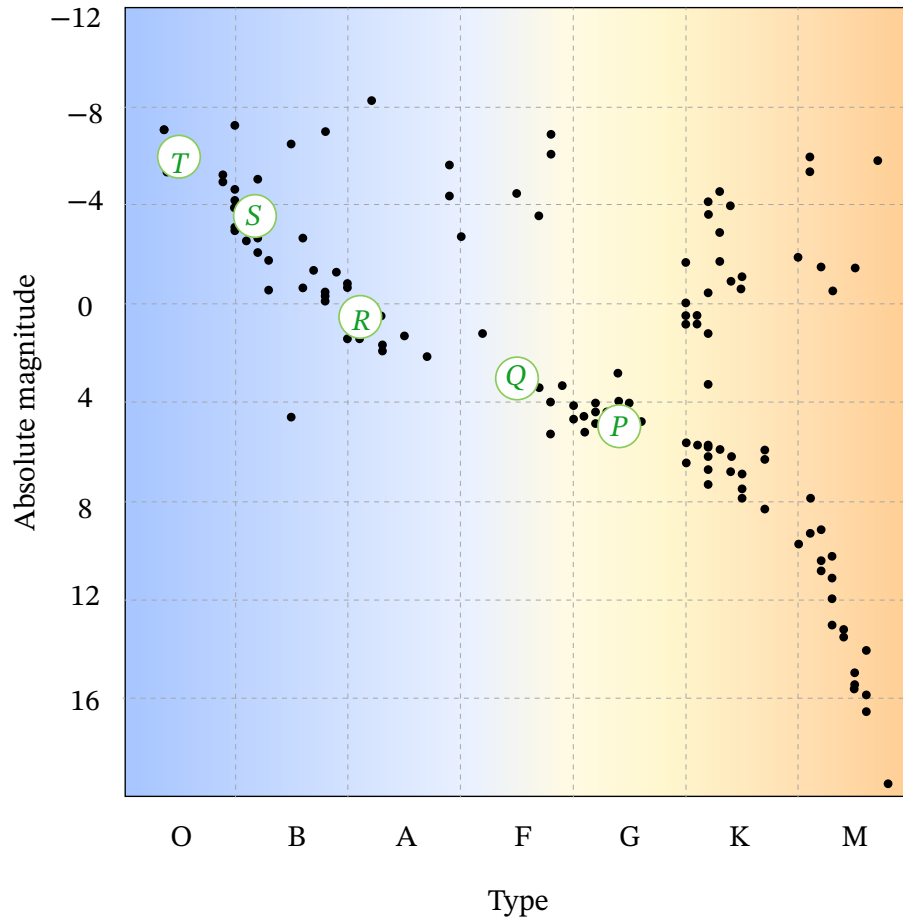
**Q2:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of luminosity and effective temperature.



At which of the points, *P*, *Q*, *R*, *S*, or *T*, would a G-type red giant appear on the diagram?

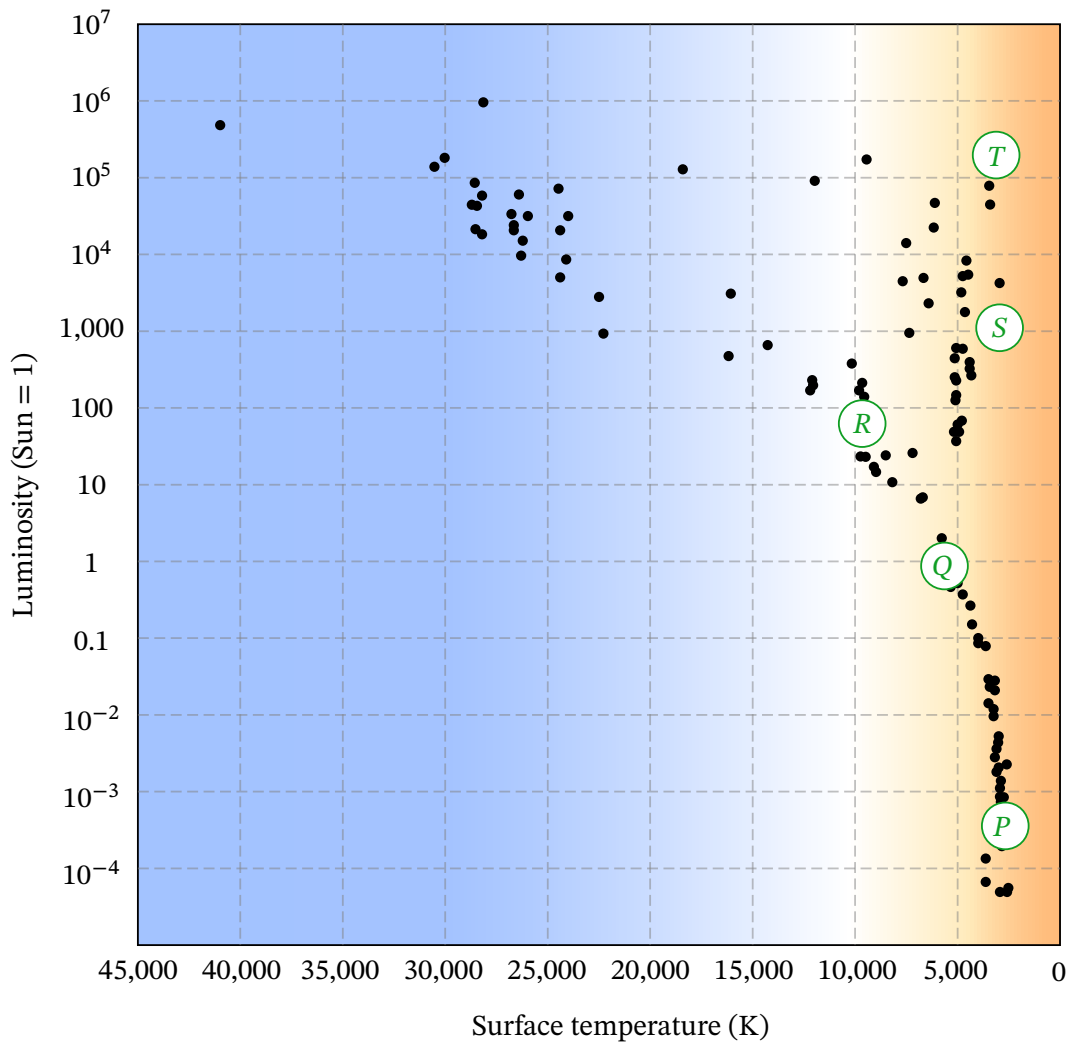
- A *P*
- B *R*
- C *S*
- D *T*
- E *Q*

**Q3:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of stellar class and absolute magnitude. At which of the points *P*, *Q*, *R*, *S*, and *T* would a main sequence star with a surface temperature of 26,000 K appear on the diagram?



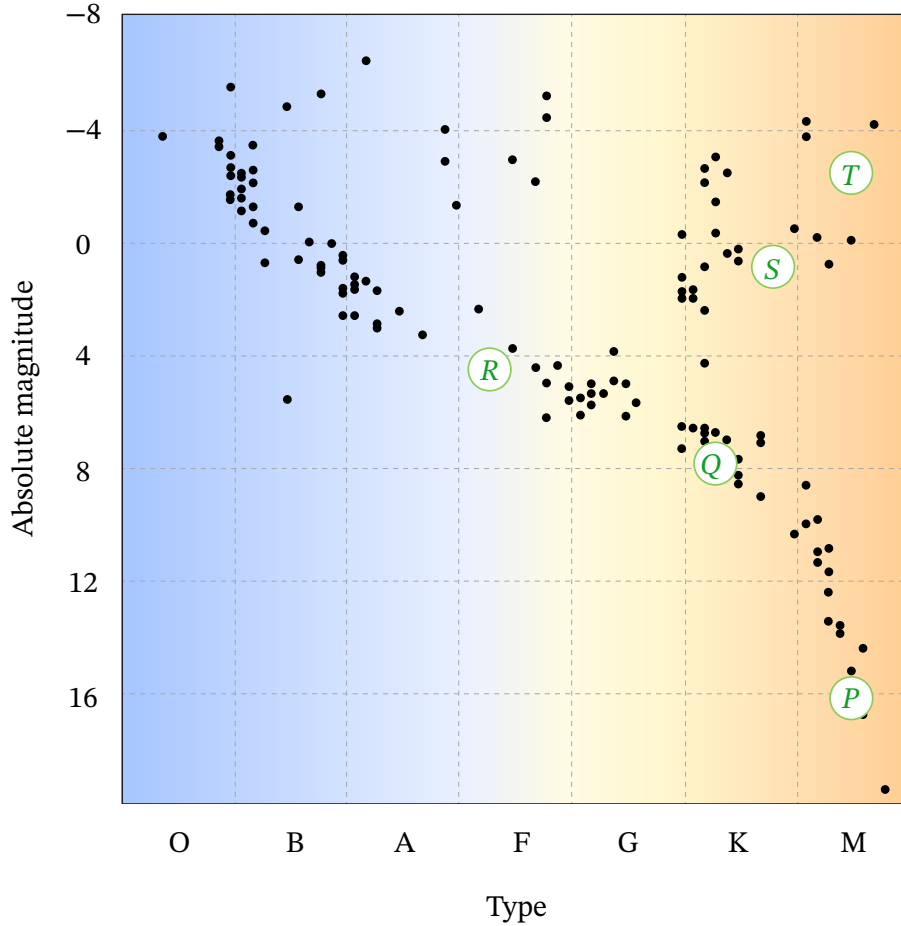
- A *S*
- B *T*
- C *R*
- D *P*
- E *Q*

**Q4:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of luminosity and effective temperature. At which of the points, *P*, *Q*, *R*, *S*, or *T*, would the Sun appear on the diagram?



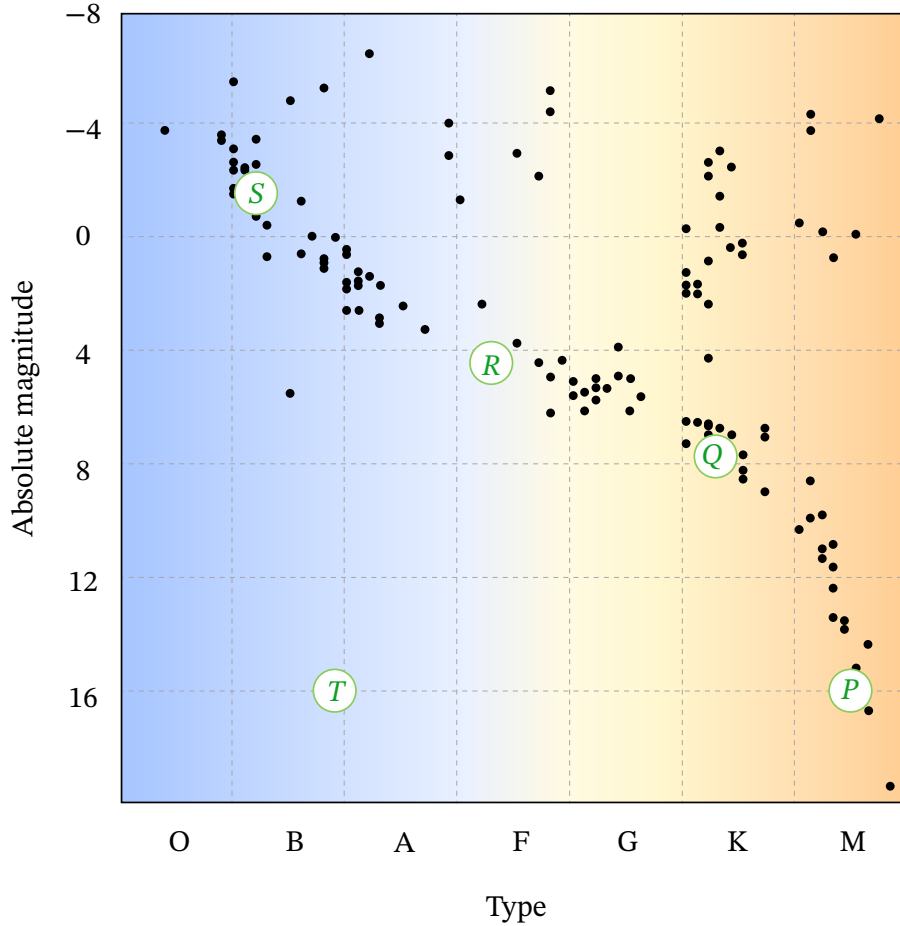
- A *P*
- B *Q*
- C *T*
- D *R*
- E *S*

**Q5:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of stellar class and absolute magnitude. At which of the points *P*, *Q*, *R*, *S*, and *T* would a main sequence star with a surface temperature of 3,300 K appear on the diagram?



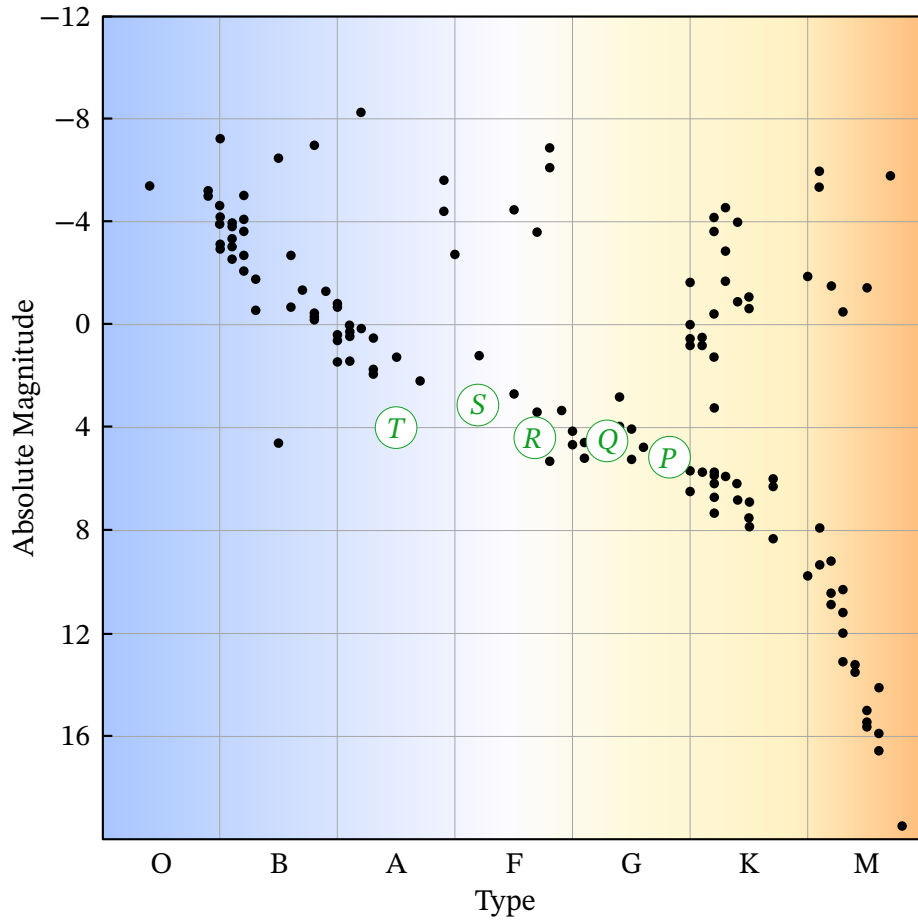
- A *R*
- B *P*
- C *T*
- D *Q*
- E *S*

**Q6:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of stellar class and absolute magnitude. At which of the points *P*, *Q*, *R*, *S*, and *T* would a main sequence star with a surface temperature of 5,000 K appear on the diagram?



- A Q
- B S
- C R
- D T
- E P

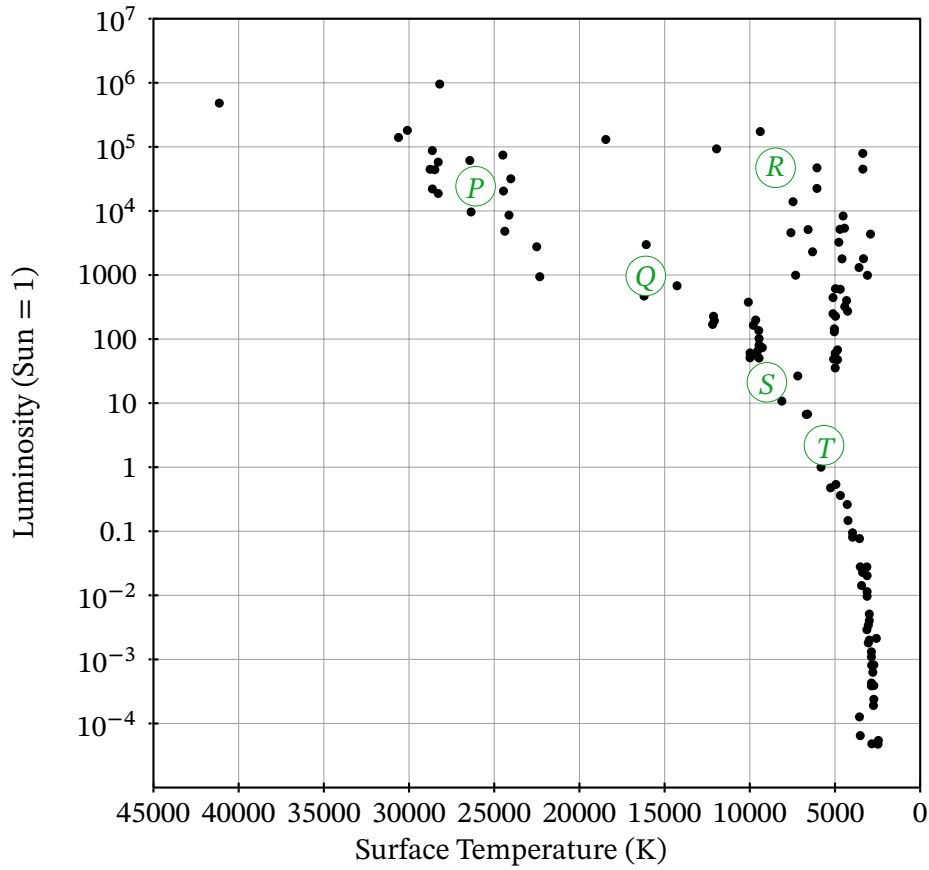
**Q7:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of stellar class and absolute magnitude. At which of the points *P*, *Q*, *R*, *S*, and *T* would a star with an absolute magnitude of 4.3 and a surface temperature of 6,300 K appear?



- A *P*
- B *S*
- C *Q*
- D *T*
- E *R*



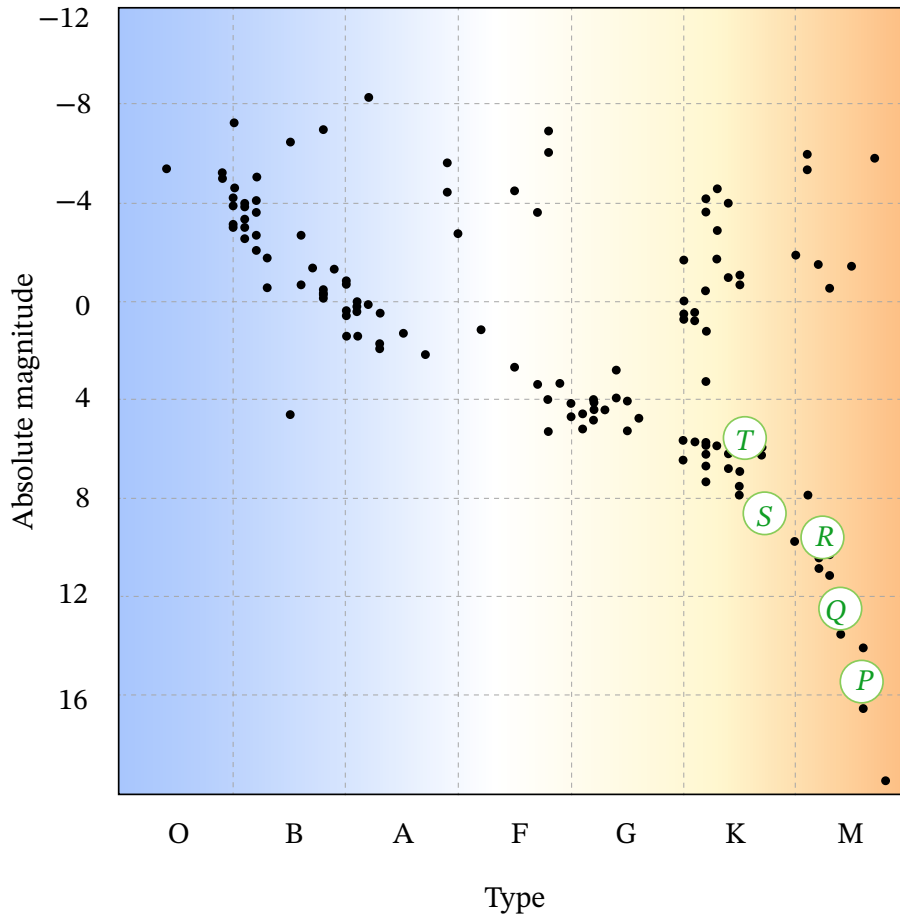
**Q8:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of luminosity and effective temperature.



Vega is an A-type star with a luminosity 50 times that of the Sun. At which of the points *P*, *Q*, *R*, *S*, and *T* would Vega appear on the diagram?

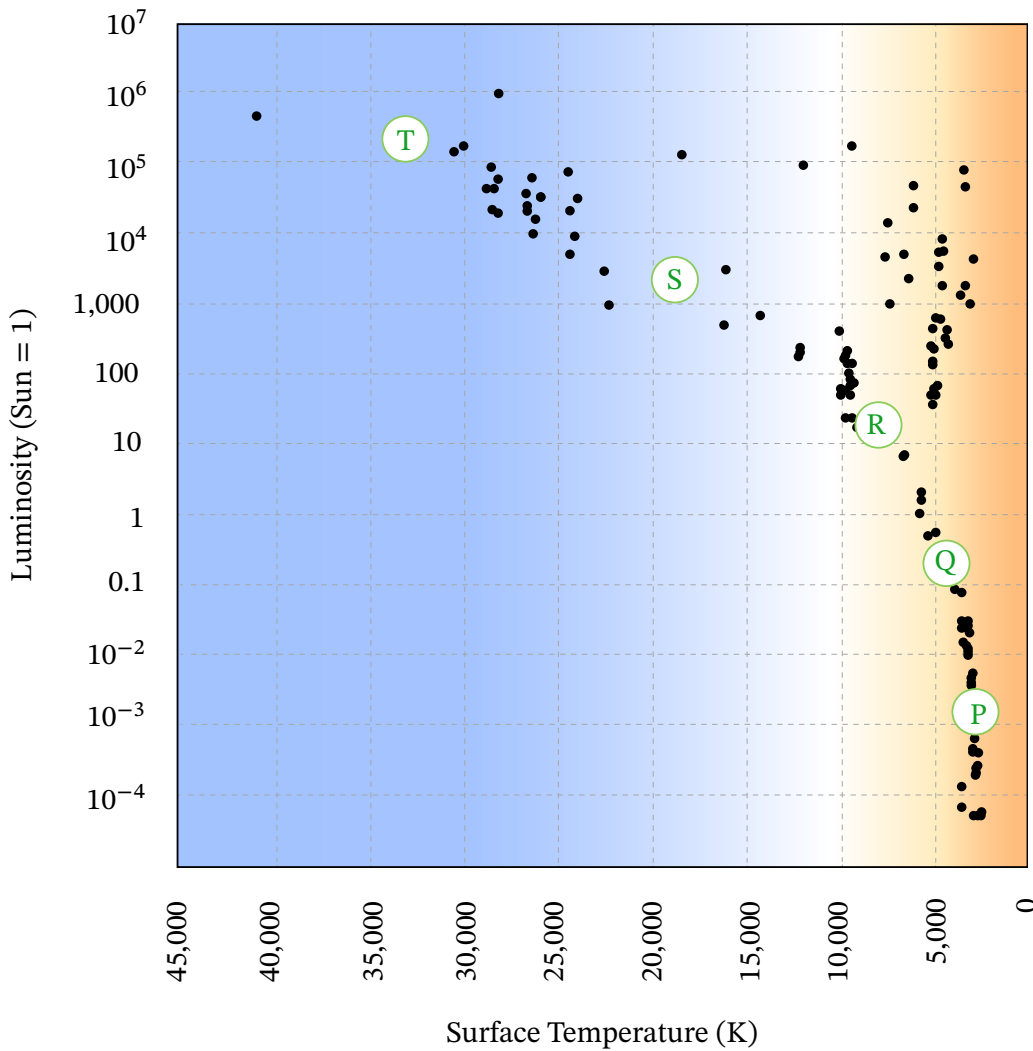
- A *R*
- B *P*
- C *S*
- D *Q*
- E *T*

**Q9:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of stellar class and absolute magnitude. At which of the points *P*, *Q*, *R*, *S*, and *T* would a star with an absolute magnitude of 12.5 and a surface temperature of 3,300 K appear?



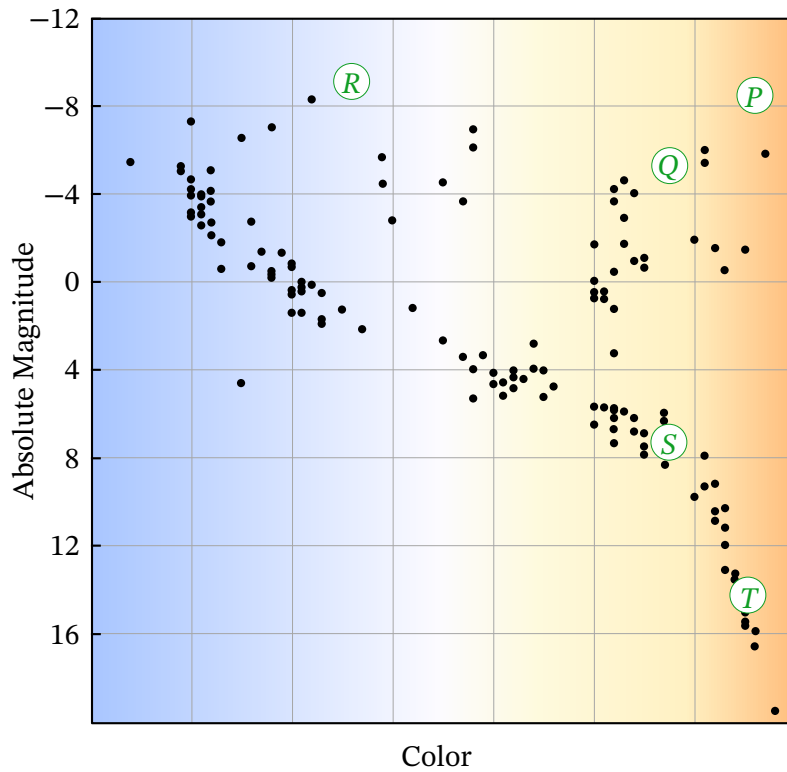
- A *P*
- B *T*
- C *Q*
- D *S*
- E *R*

**Q10:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of luminosity and effective temperature. At which of the points *P*, *Q*, *R*, *S*, and *T* might an O-type star appear on the diagram?



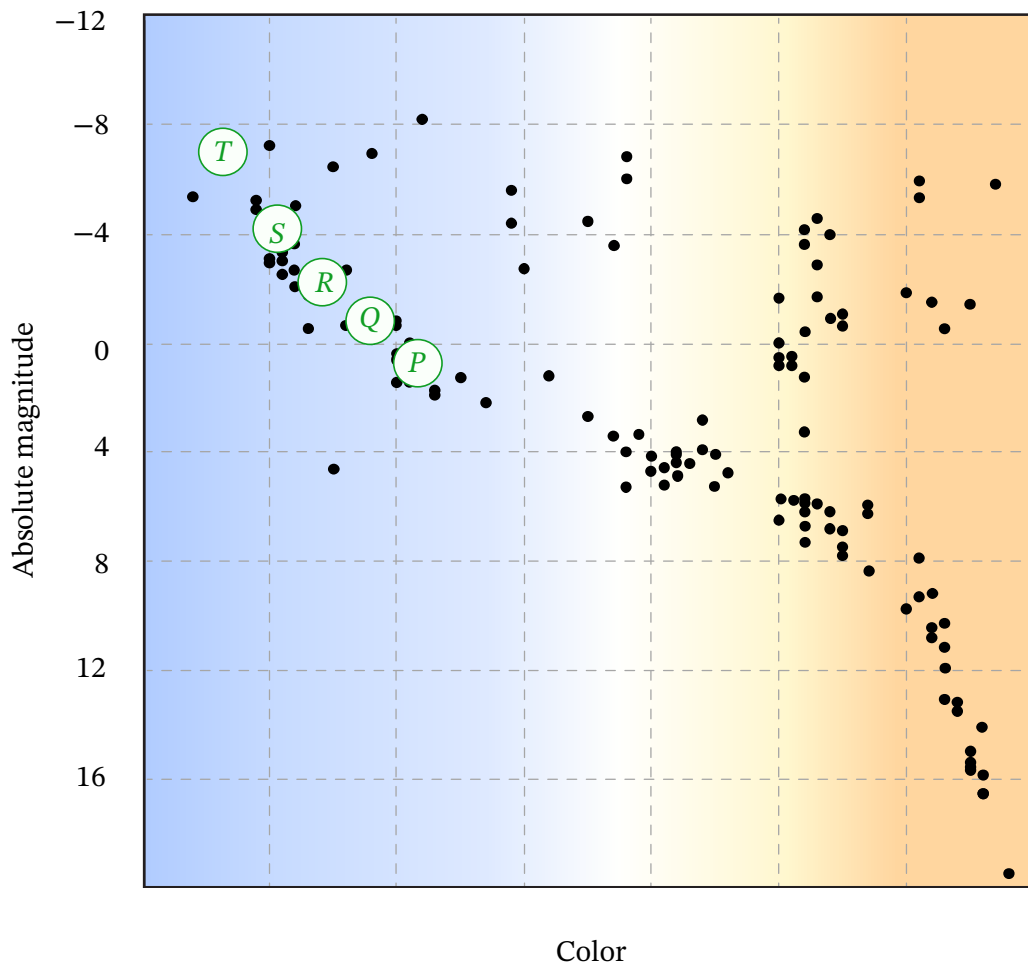
- A Q
- B P
- C T
- D S
- E R

**Q11:** The figure shows a Hertzsprung–Russell diagram plotted in terms of color and absolute magnitude. At which of the points, *P*, *Q*, *R*, *S*, or *T*, would an M-type red giant appear?



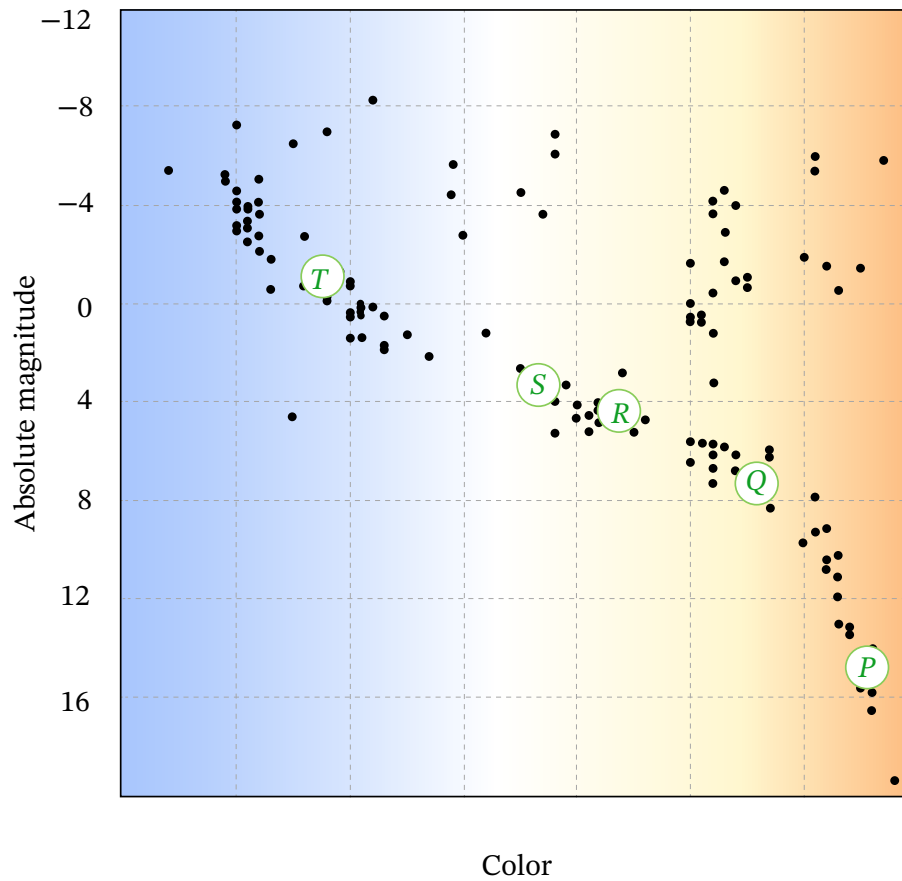
- A *P*
- B *R*
- C *S*
- D *T*
- E *Q*

**Q12:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of color and absolute magnitude. At which of the points *P*, *Q*, *R*, *S*, and *T* would a *B*-type star with an absolute magnitude of  $-0.8$  appear?



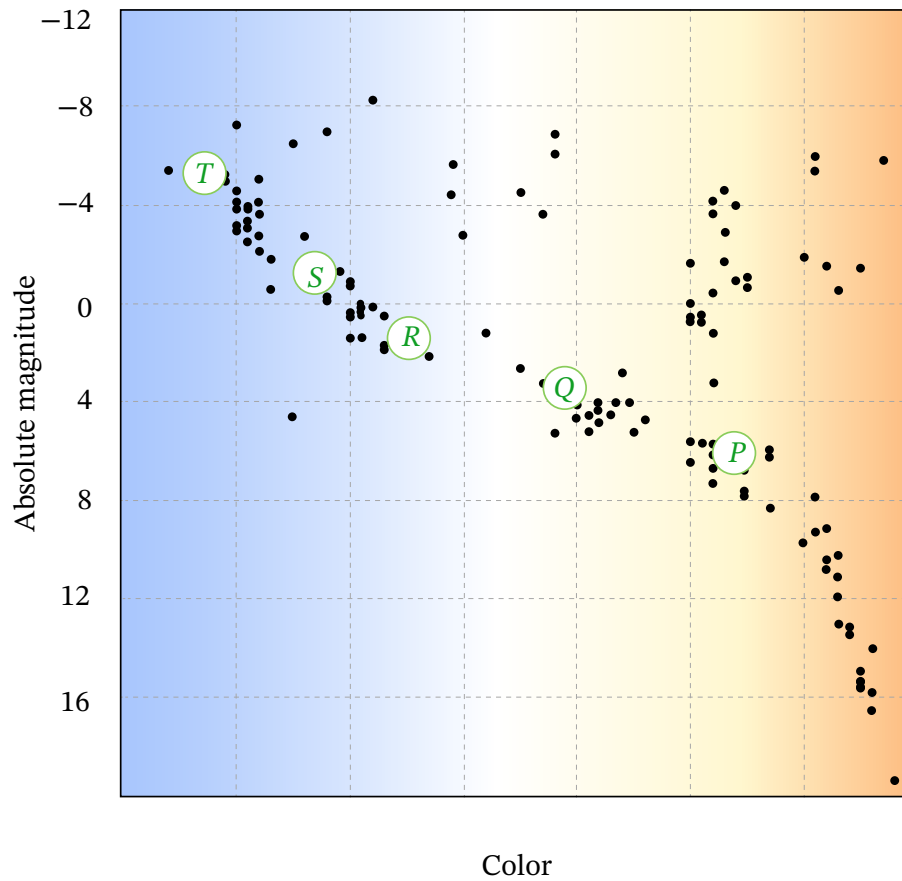
- A *R*
- B *Q*
- C *T*
- D *P*
- E *S*

**Q13:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of color and absolute magnitude. At which of the points *P*, *Q*, *R*, *S*, and *T* would a *K*-type main sequence star appear?



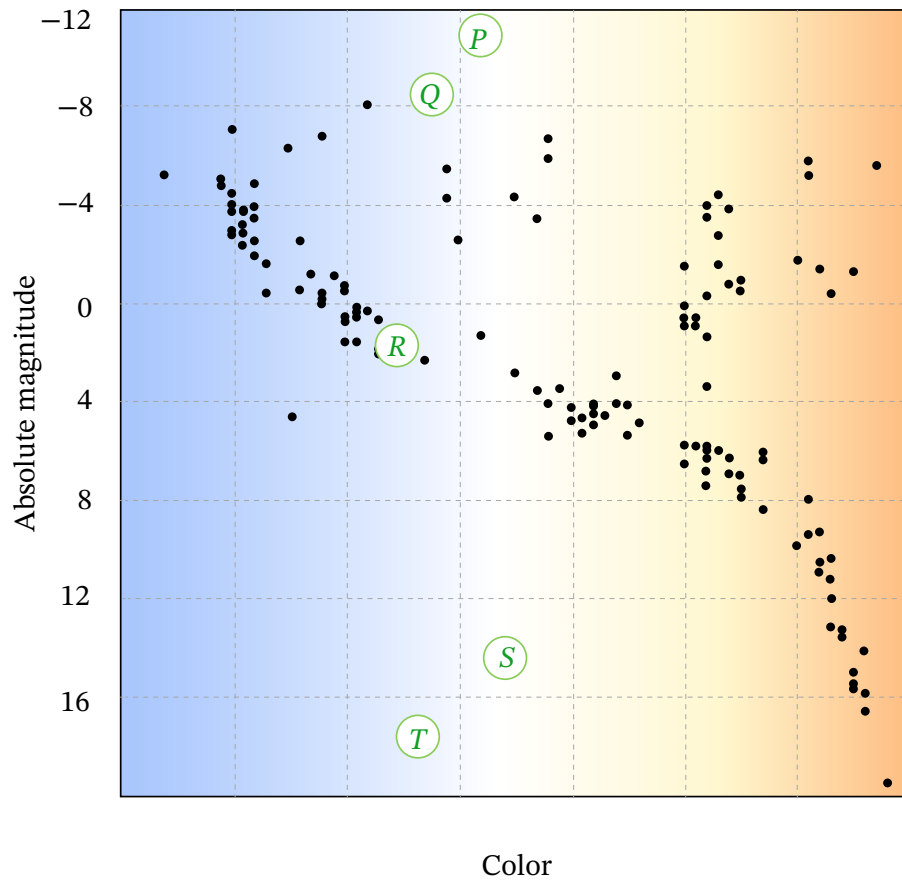
- A *Q*
- B *R*
- C *S*
- D *P*
- E *T*

**Q14:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of color and absolute magnitude. At which of the points *P*, *Q*, *R*, *S*, and *T* would an *O*-type main sequence star appear?



- A Q
- B P
- C R
- D T
- E S

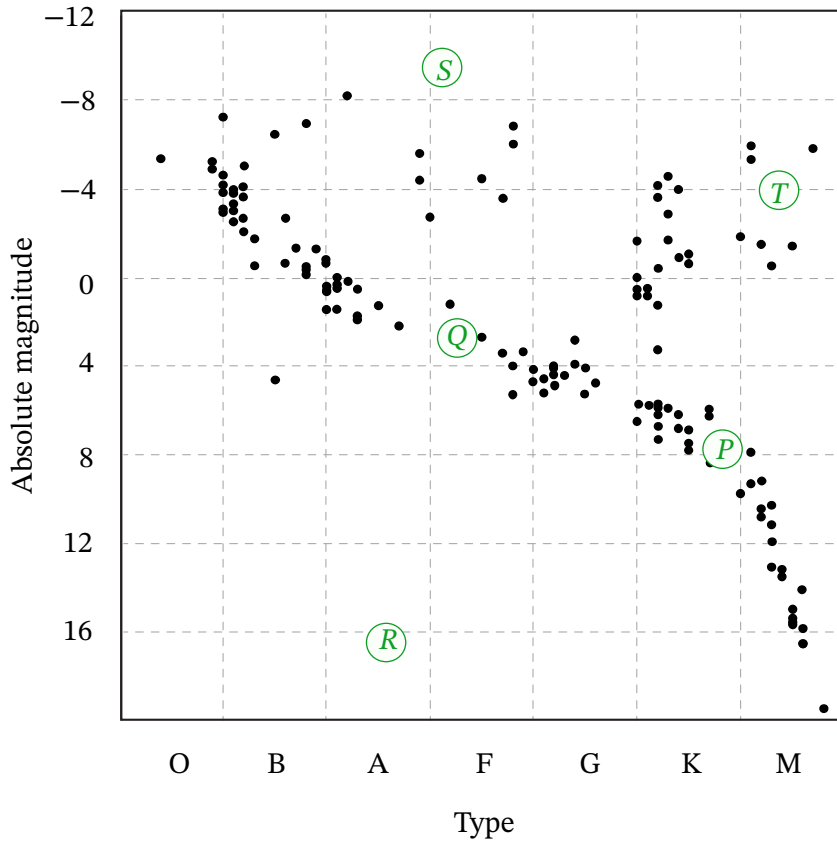
**Q15:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of color and absolute magnitude. At which of the points *P*, *Q*, *R*, *S*, and *T* would an *A*-type main sequence star appear?



- A *T*
- B *P*
- C *Q*
- D *R*
- E *S*

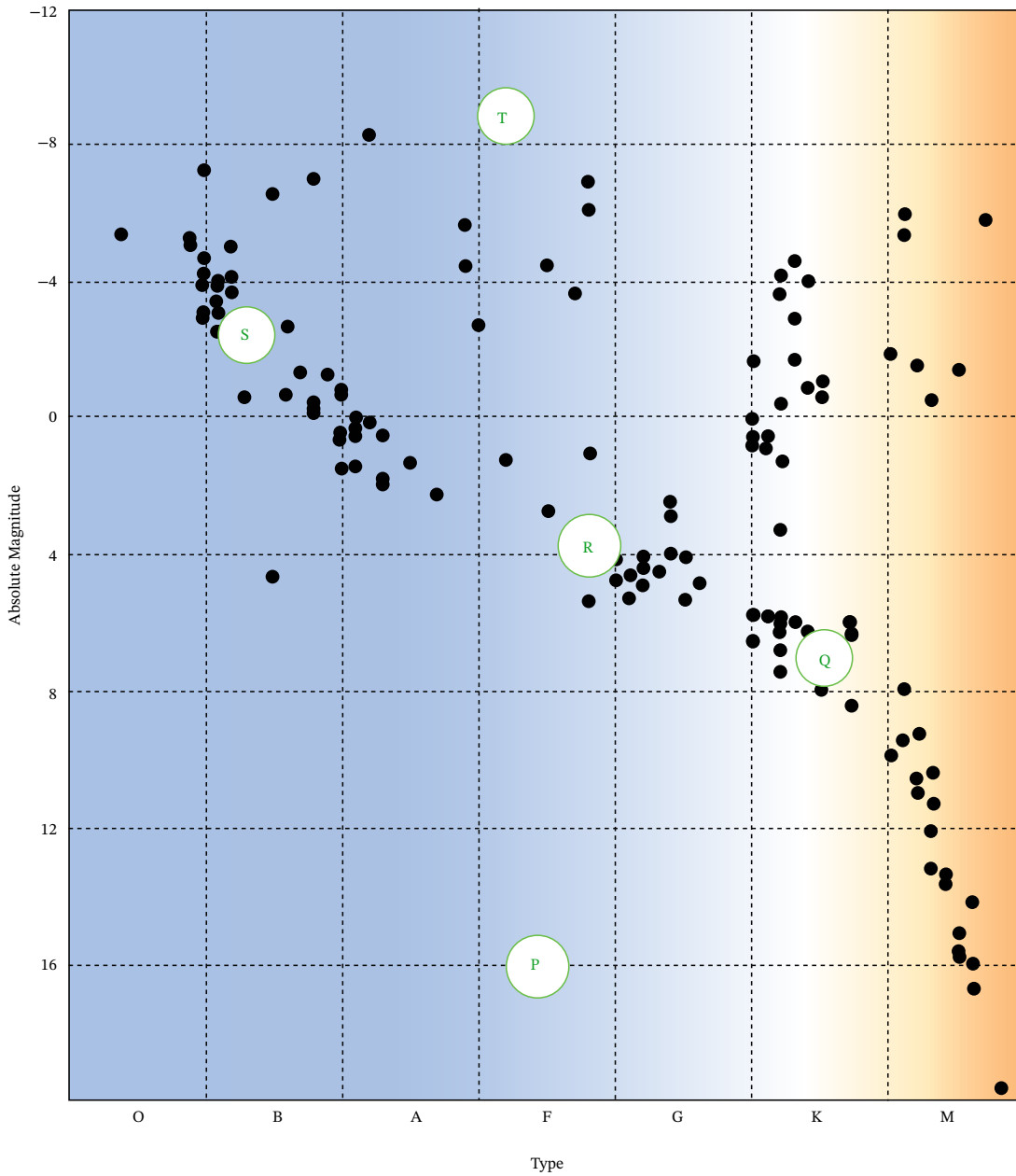


**Q16:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of stellar class and absolute magnitude. At roughly which of the points *P*, *Q*, *R*, *S*, and *T* would a red giant star appear on the diagram?



- A *T*
- B *S*
- C *P*
- D *Q*
- E *R*

**Q17:** The figure shows a Hertzsprung–Russell diagram, plotted in terms of stellar class and absolute magnitude. At which of the points P, Q, R, S, and T would a white dwarf star with a surface temperature of 7,100 K appear on the diagram?



- A Q
- B S
- C R
- D P
- <sup>18</sup>E T