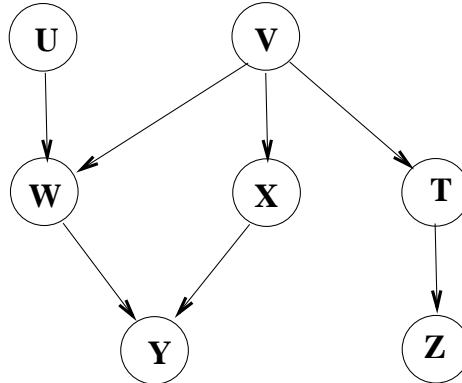Consider the Bayes net below. Perform D-separation to answer each of the following querires.

1. $V \perp Z$? Active

Path	Triple	Inactive?
VTZ	VTZ	No

2. $V \perp Z|T$ Inactive

Path	Triple	Inactive?
VTZ	VTZ	Yes

3. $U \perp V$? Inactive

Path	Triple	Inactive?
UWV	UWV	Yes
UWYXV	UWY	No
	WYX	Yes

4. $U \perp V|W$? Active

Path	Triple	Inactive?
UWV	UWV	No
UWYXV		

5. $U \perp V|X$? Inactive

Path	Triple	Inactive?
UWV	UWV	Yes
UWYXV	UWY	No
	VXY	Yes

6. $U \perp V | Y$? Active

Path	Triple	Inactive?
UWV	UWV	No
UWYXV		

7. $U \perp V | Z$? Same as $U \perp V$ since Z is not on a path.

8. $W \perp X$? Active

Path	Triple	Inactive?
WVX	WVX	No
WYV		

9. $X \perp T | V$? Inacative

Path	Triple	Inactive?
XVT	XVT	Yes
XYWVT	VWT	Yes

10. $X \perp W | U$? Active

Path	Triple	Inactive?
XVW	XVW	No
XYW		

11. $Y \perp Z$? Active

Path	Triple	Inactive?
YXVTZ	YXV	No
	VXT	No
	VTZ	No
YWVTZ		

12. $Y \perp Z | T$? Inactive

Path	Triple	Inactive?
YXVTZ	VTZ	Yes
YWVTZ	VTX	Yes

13. $Y \perp Z | X$? Active

Path	Triple	Inactive?
YXVTZ	VXY	Yes
YWVTZ		No

14. $Y \perp Z | V$? Inactive

Path	Triple	Inactive?
YXVTZ	VXT	Yes
YWVTZ	VWT	Yes

15. $W \perp Z | V$? Inactive

Path	Triple	Inactive?
WVTZ	VWT	Yes
WYXVTZ	VXT	Yes

16. $U \perp Z$? Inactive

Path	Triple	Inactive?
UWVTZ	UWV	Yes
UWYXVTZ	WXY	Yes

17. $U \perp Z | Y$? Active

Path	Triple	Inactive?
UWVTZ	$UWV - > Y$	No
UWYXVTZ	WXY	