t24_vectsp11 (TMdmDANFsTCsrPpRqWW-GrZeYDbkMoQyJcDH)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v6\_struct\_0 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v33\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v3\_group\_1 : \iota \Rightarrow o$ be given. Let $v5\_group\_1 : \iota \Rightarrow o$ be given. Let $v4\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $v5\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $v2\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $l6\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v8\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v9\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v10\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v11\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v13\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_mod\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_vectsp11 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_vectsp11 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $m1\_vectsp\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l5\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v7\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v3\_group\_1\ X0) \wedge ((v4\_vectsp\_1\ X0) \wedge ((v5\_vectsp\_1\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge (l6\_algstr\_0\ X0))))))))) \wedge ((\neg v2\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v8\_vectsp\_1\ X1\ X0) \wedge ((v9\_vectsp\_1\ X1\ X0) \wedge ((v10\_vectsp\_1\ X1\ X0) \wedge ((v11\_vectsp\_1\ X1\ X0) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1\ X1) \wedge ((v4\_rlvect\_1\ X1) \wedge (l1\_vectsp\_1\ X1\ X0))))))))))) \Rightarrow (\forall X2.(m1\_vectsp\_4\ X2\ X0\ X1) \Rightarrow ((\neg v2\_struct\_0\ X2) \wedge ((v13\_algstr\_0\ X2) \wedge ((v8\_vectsp\_1\ X2\ X0) \wedge ((v9\_vectsp\_1\ X2\ X0) \wedge ((v10\_vectsp\_1\ X2\ X0) \wedge ((v11\_vectsp\_1\ X2\ X0) \wedge ((v2\_rlvect\_1\ X2) \wedge ((v3\_rlvect\_1\ X2) \wedge ((v4\_rlvect\_1\ X2) \wedge (l1\_vectsp\_1\ X2\ X0))))))))))) \tag{1}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0) \Rightarrow ((l2\_algstr\_0\ X0) \wedge (l5\_algstr\_0\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0) \Rightarrow (l1\_struct\_0\ X0) \tag{3}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0) \Rightarrow ((l2\_struct\_0\ X0) \wedge (l1\_algstr\_0\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0) \Rightarrow (\forall X1.(l1\_vectsp\_1\ X1\ X0) \Rightarrow (l2\_algstr\_0\ X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0) \wedge ((\neg v6\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v33\_algstr\_0\ X0) \wedge ((v3\_group\_1\ X0) \wedge ((v5\_group\_1\ X0) \wedge ((v4\_vectsp\_1\ X0) \wedge ((v5\_vectsp\_1\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge (l6\_algstr\_0\ X0))))))))))) \wedge (((\neg v2\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v8\_vectsp\_1\ X1\ X0) \wedge ((v9\_vectsp\_1\ X1\ X0) \wedge ((v10\_vectsp\_1\ X1\ X0) \wedge ((v11\_vectsp\_1\ X1\ X0) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1\ X1) \wedge ((v4\_rlvect\_1\ X1) \wedge (l1\_vectsp\_1\ X1\ X0))))))))) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1)) \wedge ((v13\_vectsp\_1\ X2\ X1\ X1) \wedge ((v1\_mod\_2\ X2\ X0\ X1\ X1) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1))))))))) \Rightarrow ((v7\_vectsp\_1\ (k2\_vectsp11\ X0\ X1\ X2)\ X0) \wedge (m1\_vectsp\_4\ (k2\_vectsp11\ X0\ X1\ X2)\ X0\ X1)) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v6\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v33\_algstr\_0\ X0) \wedge ((v3\_group\_1\ X0) \wedge ((v5\_group\_1\ X0) \wedge ((v4\_vectsp\_1\ X0) \wedge ((v5\_vectsp\_1\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge (l6\_algstr\_0\ X0))))))))))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v8\_vectsp\_1\ X1\ X0) \wedge ((v9\_vectsp\_1\ X1\ X0) \wedge ((v10\_vectsp\_1\ X1\ X0) \wedge ((v11\_vectsp\_1\ X1\ X0) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1\ X1) \wedge ((v4\_rlvect\_1\ X1) \wedge (l1\_vectsp\_1\ X1\ X0))))))))) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1)) \wedge ((v13\_vectsp\_1\ X2\ X1\ X1) \wedge ((v1\_mod\_2\ X2\ X0\ X1\ X1) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1)))))))) \Rightarrow (\forall X3.((v7\_vectsp\_1\ X3\ X0) \wedge (m1\_vectsp\_4\ X3\ X0\ X1)) \Rightarrow ((X3 = k2\_vectsp11\ X0\ X1\ X2) \Leftrightarrow (u1\_struct\_0\ X3 = ReplSep\ (toset\ (\lambda X4 : \iota.m1\_subset\_1\ X4\ (u1\_struct\_0\ X1)))\ (\lambda X4 : \iota.\exists X5.(v7\_ordinal1\ X5) \wedge (k3\_funct\_2\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1)\ (k1\_vectsp11\ X1\ X2\ X5)\ X4 = k4\_struct\_0\ X1))\ (\lambda X4 : \iota.X4)))))) \tag{7}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow(\forall X1.(r1\_struct\_0\ X0\ X1)\Leftrightarrow (X1 \in u1\_struct\_0\ X0)) \tag{8}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v6\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v33\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v5\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0))))))))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v8\_vectsp\_1\ X1\ X0)\wedge((v9\_vectsp\_1\ X1\ X0)\wedge((v10\_vectsp\_1\ X1\ X0)\wedge((v11\_vectsp\_1\ X1\ X0)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge(l1\_vectsp\_1\ X1\ X0))))))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1))\wedge((v13\_vectsp\_1\ X2\ X1\ X1)\wedge((v1\_mod\_2\ X2\ X0\ X1\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1))))))))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X1))\Rightarrow((r1\_struct\_0\ (k2\_vectsp11\ X0\ X1\ X2)\ X3)\Leftrightarrow(\exists X4.(v7\_ordinal1\ X4)\wedge(k3\_funct\_2\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1)\ (k1\_vectsp11\ X1\ X2\ X4)\ X3 = k4\_struct\_0\ X1))))))$$