|  |  |
| --- | --- |
| **MSSV** | **Tên sinh viên** |
| 16520015 | Nguyễn Xuân An |
| 16521014 | Võ Ngọc Quyến |
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**Lab 02: Bài tập thực hành – câu 4**

Danh sách tất cả các tập phổ biến thỏa yêu câu:

Minsupp = 0.1

|  |  |
| --- | --- |
| Kích thước | Số lượng |
| Size of set of large itemsets L(1) | 49 |
| Size of set of large itemsets L(2) | 167 |
| Size of set of large itemsets L(3) | 120 |
| Size of set of large itemsets L(4) | 25 |
| Size of set of large itemsets L(5) | 2 |

Size of set of large itemsets L(1): 49

Large Itemsets L(1):

co=y 5465

ca=y 11676

ga=y 5942

ct=y 4391

pr=y 4781

tx=y 8483

la=y 5154

tn=y 4900

pe=y 5515

mn=y 3929

de=y 3630

hi=y 3804

me=y 3969

md=y 5108

ma=y 4963

ut=y 6041

mo=y 4638

mi=y 4734

mt=y 4800

qc=y 4272

ms=y 4815

va=y 5638

al=y 5702

ar=y 4610

vt=y 3713

il=y 5167

in=y 4440

ia=y 3652

az=y 6778

id=y 5129

nh=y 3635

ks=y 3869

nj=y 4822

nm=y 6403

nc=y 5926

ny=y 5773

nv=y 5670

wa=y 5654

bc=y 4875

wi=y 4321

wv=y 4062

fl=y 6621

wy=y 4710

on=y 5068

ok=y 4651

oh=y 4772

sc=y 5432

ky=y 4555

or=y 7028

Size of set of large itemsets L(2): 167

Large Itemsets L(2):

co=y ut=y 4005

co=y nm=y 3932

co=y wy=y 3841

ca=y ut=y 3852

ca=y az=y 3868

ca=y id=y 3564

ca=y nv=y 4701

ca=y wa=y 4086

ca=y or=y 5522

ga=y tx=y 3612

ga=y la=y 3989

ga=y tn=y 3979

ga=y md=y 3663

ga=y ms=y 4219

ga=y va=y 4251

ga=y al=y 4931

ga=y ar=y 3566

ga=y nc=y 4833

ga=y fl=y 4252

ga=y sc=y 4821

ga=y ky=y 3560

ct=y pe=y 4010

ct=y md=y 3521

ct=y ma=y 3999

ct=y mi=y 3498

ct=y va=y 3526

ct=y nj=y 3747

ct=y ny=y 4132

ct=y oh=y 3549

tx=y la=y 4204

tx=y ms=y 3660

tx=y al=y 3746

tx=y ar=y 3668

tx=y nm=y 3924

tx=y fl=y 3650

tx=y ok=y 4104

tx=y sc=y 3479

la=y ms=y 4077

la=y al=y 4091

la=y ar=y 3575

la=y nc=y 3701

la=y fl=y 3845

la=y sc=y 3784

tn=y pe=y 3682

tn=y md=y 3747

tn=y mo=y 3529

tn=y va=y 4228

tn=y al=y 3880

tn=y ar=y 3565

tn=y il=y 3695

tn=y nc=y 4207

tn=y oh=y 3563

tn=y sc=y 3695

tn=y ky=y 3986

pe=y md=y 4235

pe=y ma=y 4211

pe=y mi=y 3957

pe=y va=y 4323

pe=y il=y 4077

pe=y in=y 3795

pe=y nj=y 4259

pe=y nc=y 3961

pe=y ny=y 4740

pe=y wi=y 3610

pe=y wv=y 3722

pe=y on=y 3923

pe=y oh=y 4209

pe=y ky=y 3651

me=y ny=y 3613

md=y ma=y 3642

md=y va=y 4455

md=y al=y 3491

md=y il=y 3737

md=y in=y 3535

md=y nj=y 4005

md=y nc=y 4162

md=y ny=y 4055

md=y wv=y 3614

md=y oh=y 3764

md=y sc=y 3537

md=y ky=y 3628

ma=y mi=y 3636

ma=y va=y 3652

ma=y il=y 3556

ma=y nj=y 3858

ma=y ny=y 4372

ma=y on=y 3653

ma=y oh=y 3654

ut=y az=y 3858

ut=y nm=y 3596

ut=y nv=y 4019

ut=y wy=y 3495

mo=y va=y 3511

mo=y ar=y 3664

mo=y il=y 3979

mo=y in=y 3489

mo=y ky=y 3553

mi=y il=y 3789

mi=y in=y 3554

mi=y ny=y 4085

mi=y wi=y 3816

mi=y on=y 4007

mi=y oh=y 3758

mt=y id=y 3906

mt=y wa=y 3535

mt=y wy=y 3819

mt=y or=y 3495

qc=y on=y 3816

ms=y va=y 3566

ms=y al=y 4343

ms=y nc=y 3912

ms=y fl=y 3769

ms=y sc=y 3959

va=y al=y 4047

va=y il=y 3903

va=y in=y 3653

va=y nj=y 4036

va=y nc=y 4854

va=y ny=y 4089

va=y wv=y 3760

va=y oh=y 3883

va=y sc=y 4169

va=y ky=y 3938

al=y ar=y 3620

al=y nc=y 4475

al=y fl=y 4161

al=y sc=y 4498

al=y ky=y 3489

ar=y nc=y 3480

ar=y ok=y 3561

vt=y ny=y 3510

il=y in=y 4134

il=y nj=y 3651

il=y nc=y 3612

il=y ny=y 3985

il=y wi=y 3644

il=y on=y 3581

il=y oh=y 4085

il=y ky=y 3765

in=y ny=y 3677

in=y oh=y 3905

in=y ky=y 3561

az=y nm=y 4723

id=y wa=y 3969

id=y or=y 4199

nj=y nc=y 3763

nj=y ny=y 4254

nj=y oh=y 3711

nc=y ny=y 3758

nc=y wv=y 3485

nc=y fl=y 3696

nc=y oh=y 3550

nc=y sc=y 4800

nc=y ky=y 3768

ny=y wi=y 3709

ny=y wv=y 3483

ny=y on=y 4094

ny=y oh=y 4100

nv=y or=y 3500

wa=y bc=y 3908

wa=y or=y 4959

bc=y or=y 3679

wi=y on=y 3667

wv=y oh=y 3557

fl=y sc=y 3911

on=y oh=y 3565

oh=y ky=y 3647

Size of set of large itemsets L(3): 120

Large Itemsets L(3):

ca=y wa=y or=y 3963

ga=y la=y ms=y 3668

ga=y la=y al=y 3763

ga=y la=y nc=y 3485

ga=y la=y sc=y 3596

ga=y tn=y va=y 3648

ga=y tn=y al=y 3603

ga=y tn=y nc=y 3724

ga=y tn=y sc=y 3517

ga=y md=y va=y 3556

ga=y md=y nc=y 3551

ga=y ms=y al=y 4049

ga=y ms=y nc=y 3750

ga=y ms=y fl=y 3538

ga=y ms=y sc=y 3827

ga=y va=y al=y 3788

ga=y va=y nc=y 4124

ga=y va=y sc=y 3882

ga=y al=y nc=y 4246

ga=y al=y fl=y 3852

ga=y al=y sc=y 4322

ga=y nc=y fl=y 3512

ga=y nc=y sc=y 4447

ga=y fl=y sc=y 3726

ct=y pe=y ma=y 3784

ct=y pe=y nj=y 3618

ct=y pe=y ny=y 3908

ct=y ma=y nj=y 3562

ct=y ma=y ny=y 3879

ct=y nj=y ny=y 3672

tx=y la=y ms=y 3487

la=y ms=y al=y 3767

la=y ms=y sc=y 3503

la=y al=y fl=y 3491

la=y al=y sc=y 3561

la=y nc=y sc=y 3483

tn=y pe=y va=y 3522

tn=y md=y va=y 3657

tn=y md=y nc=y 3531

tn=y va=y al=y 3502

tn=y va=y nc=y 3964

tn=y va=y sc=y 3480

tn=y va=y ky=y 3647

tn=y al=y nc=y 3524

tn=y nc=y sc=y 3580

tn=y nc=y ky=y 3555

pe=y md=y ma=y 3497

pe=y md=y va=y 3919

pe=y md=y il=y 3500

pe=y md=y nj=y 3749

pe=y md=y nc=y 3626

pe=y md=y ny=y 3847

pe=y md=y oh=y 3630

pe=y ma=y mi=y 3479

pe=y ma=y va=y 3510

pe=y ma=y nj=y 3699

pe=y ma=y ny=y 4057

pe=y ma=y oh=y 3537

pe=y mi=y ny=y 3776

pe=y mi=y on=y 3529

pe=y mi=y oh=y 3536

pe=y va=y il=y 3550

pe=y va=y nj=y 3754

pe=y va=y nc=y 3773

pe=y va=y ny=y 3869

pe=y va=y wv=y 3503

pe=y va=y oh=y 3684

pe=y il=y in=y 3597

pe=y il=y nj=y 3515

pe=y il=y ny=y 3742

pe=y il=y oh=y 3734

pe=y in=y ny=y 3520

pe=y in=y oh=y 3602

pe=y nj=y ny=y 4011

pe=y nj=y oh=y 3624

pe=y nc=y ny=y 3531

pe=y ny=y on=y 3744

pe=y ny=y oh=y 3900

md=y ma=y ny=y 3534

md=y va=y il=y 3505

md=y va=y nj=y 3764

md=y va=y nc=y 4026

md=y va=y ny=y 3710

md=y va=y wv=y 3485

md=y va=y oh=y 3538

md=y va=y ky=y 3513

md=y nj=y nc=y 3528

md=y nj=y ny=y 3687

ma=y mi=y ny=y 3540

ma=y va=y ny=y 3521

ma=y nj=y ny=y 3760

ma=y ny=y on=y 3537

ma=y ny=y oh=y 3553

mi=y ny=y wi=y 3488

mi=y ny=y on=y 3663

mi=y ny=y oh=y 3538

mi=y wi=y on=y 3492

ms=y al=y nc=y 3733

ms=y al=y fl=y 3599

ms=y al=y sc=y 3805

ms=y nc=y sc=y 3698

va=y al=y nc=y 3864

va=y al=y sc=y 3682

va=y il=y oh=y 3502

va=y nj=y nc=y 3612

va=y nj=y ny=y 3671

va=y nc=y ny=y 3577

va=y nc=y sc=y 4068

va=y nc=y ky=y 3614

va=y ny=y oh=y 3501

al=y nc=y sc=y 4148

al=y fl=y sc=y 3638

il=y in=y ny=y 3489

il=y in=y oh=y 3724

il=y ny=y oh=y 3624

in=y ny=y oh=y 3478

id=y wa=y or=y 3693

nj=y ny=y oh=y 3556

nc=y fl=y sc=y 3522

wa=y bc=y or=y 3560

Size of set of large itemsets L(4): 25

Large Itemsets L(4):

ga=y la=y ms=y al=y 3549

ga=y tn=y va=y nc=y 3559

ga=y md=y va=y nc=y 3484

ga=y ms=y al=y nc=y 3635

ga=y ms=y al=y sc=y 3719

ga=y ms=y nc=y sc=y 3612

ga=y va=y al=y nc=y 3694

ga=y va=y al=y sc=y 3579

ga=y va=y nc=y sc=y 3825

ga=y al=y nc=y sc=y 4038

ga=y al=y fl=y sc=y 3532

ct=y pe=y ma=y ny=y 3726

ct=y pe=y nj=y ny=y 3571

ct=y ma=y nj=y ny=y 3524

tn=y md=y va=y nc=y 3489

pe=y md=y va=y nj=y 3555

pe=y md=y va=y nc=y 3550

pe=y md=y va=y ny=y 3581

pe=y md=y nj=y ny=y 3570

pe=y ma=y nj=y ny=y 3640

pe=y va=y nj=y ny=y 3554

pe=y il=y ny=y oh=y 3497

pe=y nj=y ny=y oh=y 3502

ms=y al=y nc=y sc=y 3572

va=y al=y nc=y sc=y 3608

Size of set of large itemsets L(5): 2

Large Itemsets L(5):

ga=y ms=y al=y nc=y sc=y 3519

ga=y va=y al=y nc=y sc=y 3529