

# Entity-relationship diagrams

# Mission statement

# Mission statement

- I need to maintain the information I use to contact people

# Mission objectives

# Mission objectives

- Maintain contact information

# Mission objectives

- Maintain contact information
- Maintain some social information

I use the address book to look up addresses and phone numbers of friends and businesses. I also contact some people by email and look at businesses' Web sites. Some friends are on my holiday list, and I want to send them cards that are addressed with spouse and childrens names. I send some friends birthday cards.

I use the address book to look up addresses and phone numbers of friends and businesses. I also contact some people by email and look at businesses' Web sites. Some friends are on my holiday list, and I want to send them cards that are addressed with spouse and childrens names. I send some friends birthday cards.

# Preliminary subject list

friends

businesses

people

holiday list

# List of characteristics

friends

- friendName

businesses

- friendAddress

people

- friendPhone

holiday list

- friendFax
- friendEmail

# List of characteristics

friends

businesses

people

holiday list

- friendName
- friendAddress
- friendPhone
- friendFax
- friendEmail
- businessName
- businessContact
- businessContactPos
- businessPhone
- businessFax
- businessEmail
- businessURL

# List of characteristics

friends

businesses

people

holiday list

- friendName
- friendAddress
- friendPhone
- friendFax
- friendEmail
- businessName
- businessContact
- businessContactPos
- businessPhone
- businessFax
- businessEmail
- businessURL

# List of characteristics

friends

businesses

people

holiday list

- friendName
- friendAddress
- friendPhone
- friendFax
- friendEmail
- businessName
- businessContact
- businessContactPos
- businessPhone
- businessFax
- businessEmail
- businessURL
- spouse
- kidsnames
- birthday

# List of characteristics

friends

businesses

people

~~holiday list~~

- friendName
- friendAddress
- friendPhone
- friendFax
- friendEmail
- businessName
- businessContact
- businessContactPos
- businessPhone
- businessFax
- businessEmail
- businessURL
- spouse
- kidsnames
- birthday
- holidayList

# Characteristic list

- friendName
- friendAddress
- friendPhone
- friendFax
- friendEmail
- businessName
- businessContact
- businessContactPos
- businessPhone
- businessFax
- businessEmail
- businessURL
- spouse
- kidsnames
- birthday
- holidayList

# Preliminary subject list

- friendName
- friendAddress
- friendPhone
- friendFax
- friendEmail
- businessName
- businessContact
- businessContactPos
- businessPhone
- businessFax
- businessEmail
- businessURL
- spouse
- kidsnames
- birthday
- holidayList

# Preliminary subject list

- Friends

- friendName
- friendAddress
- friendPhone
- friendFax
- friendEmail

- businessPhone
- businessFax
- businessEmail
- businessURL

- businessName
- businessContact
- businessContactPos

- spouse
- kidsnames
- birthday
- holidayList

# Preliminary subject list

- Friends
- Businesses
- friendName
- friendAddress
- friendPhone
- friendFax
- friendEmail
- businessName
- businessContact
- businessContactPos
- businessPhone
- businessFax
- businessEmail
- businessURL
- spouse
- kidsnames
- birthday
- holidayList

# Subjects and attributes

## Friends

friendName

friendAddress

friendPhone

friendFax

friendEmail

spouse

kidnames

birthday

holidayList

## Businesses

businessName

businessContact

businessContactPos

businessAddress

businessPhone

businessFax

businessEmail

businessURL

# Subjects and attributes

## Friends

friendName  
friendAddress  
friendPhone  
friendFax  
friendEmail  
spouse  
kidnames  
birthday  
holidayList

## Businesses

businessName  
businessContact  
businessContactPos  
businessAddress  
businessPhone  
businessFax  
businessEmail  
businessURL

friends  
businesses  
people

# Subjects and attributes

## Friends

friendName

friendAddress

friendPhone

friendFax

friendEmail

spouse

kidnames

birthday

holidayList

## Businesses

businessName

businessContact

businessContactPos

businessAddress

businessPhone

businessFax

businessEmail

businessURL

# Subjects and attributes

## Friends

friend1stName

friendLastName

friendAddress

friendPhone

friendFax

friendEmail

spouse

kidnames

birthday

holidayList

## Businesses

businessName

businessContact

businessContactPos

businessAddress

businessPhone

businessFax

businessEmail

businessURL

# Subjects and attributes

## Friends

friend1stName    kidnames  
friendLastName    birthday  
friendStreet    holidayList  
friendCity  
friendState  
friendZIP  
friendPhone  
friendFax  
friendEmail  
spouse

## Businesses

businessName  
businessContact  
businessContactPos  
businessAddress  
businessPhone  
businessFax  
businessEmail  
businessURL

# Subjects and attributes

## Friends

friend1stName spouse  
friendLastName kidnames  
friendStreet birthday  
friendCity holidayList  
friendState  
friendZIP  
friendAC  
friendPhoneNo  
friendFax  
friendEmail

## Businesses

businessName  
businessContact  
businessContactPos  
businessAddress  
businessPhone  
businessFax  
businessEmail  
businessURL

# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendStreet  
friendCity  
friendState  
friendZIP  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo

## Businesses

businessName  
businessContact  
businessContactPos  
businessAddress  
businessPhone  
businessFax  
businessEmail  
businessURL

# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendStreet  
friendCity  
friendState  
friendZIP  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo

friendEmail  
spouse  
kidnames  
**birthMon**  
**birthDay**  
holidayList

## Businesses

businessName  
businessContact  
businessContactPos  
businessAddress  
businessPhone  
businessFax  
businessEmail  
businessURL

# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendStreet  
friendCity  
friendState  
friendZIP  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
businessContact  
businessContactPos  
businessAddress  
businessPhone  
businessFax  
businessEmail  
businessURL

# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendStreet  
friendCity  
friendState  
friendZIP  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessAddress  
businessPhone  
businessFax  
businessEmail  
businessURL

# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendStreet  
friendCity  
friendState  
friendZIP  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
businessFax  
contact1Name  
businessEmail  
contactLastName  
businessURL  
businessContactPos  
businessStreet  
businessCity  
businessState  
businessZIP  
businessPhone

# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendStreet  
friendCity  
friendState  
friendZIP  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
businessFax  
contact1Name  
businessEmail  
contactLastName  
businessURL  
businessContactPos  
businessStreet  
businessCity  
businessState  
businessZIP  
businessAC  
businessPhoneNo

# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendStreet  
friendCity  
friendState  
friendZIP  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
businessFaxAC  
contact1Name  
businessFaxNo  
contactLastName  
businessEmail  
businessContactPos  
businessURL  
businessStreet  
businessCity  
businessState  
businessZIP  
businessAC  
businessPhoneNo

# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendStreet  
friendCity  
friendState  
friendZIP  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessStreet  
businessCity  
businessState  
businessZIP  
businessAC  
businessPhoneNo  
businessFaxAC  
businessFaxNo  
businessEmail  
businessURL

# Subjects and attributes

## Friends

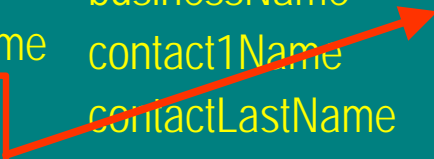
friend1stName  
friendLastName  
friendStreet  
friendCity  
friendState  
friendZIP  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessStreet  
businessCity  
businessState  
businessZIP  
businessAC  
businessPhoneNo  
businessFaxAC  
businessFaxNo  
businessEmail  
businessURL

## Addresses

friendStreet  
friendCity  
friendState  
friendZIP



# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessStreet  
businessCity  
businessState  
businessZIP  
businessAC  
businessPhoneNo  
businessFaxAC  
businessFaxNo  
businessEmail  
businessURL

## Addresses

friendStreet  
friendCity  
friendState  
friendZIP

# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessAC  
businessPhoneNo  
businessFaxAC  
businessFaxNo  
businessEmail  
businessURL

## Addresses

street  
city  
state  
ZIP

# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessAC  
businessPhoneNo  
businessFaxAC  
businessFaxNo  
businessEmail  
businessURL

## Addresses

street  
city  
state  
ZIP

## Telephones

friendAC  
friendPhoneNo



# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessAC  
businessPhoneNo  
businessFaxAC  
businessFaxNo  
businessEmail  
businessURL

## Addresses

street  
city  
state  
ZIP

## Telephones

friendAC  
friendPhoneNo  
phoneType



# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendAC  
friendPhoneNo  
friendFaxAC  
friendFaxNo  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessAC  
businessPhoneNo  
businessFaxAC  
businessFaxNo  
businessEmail  
businessURL

## Addresses

street  
city  
state  
ZIP

## Telephones

friendAC  
friendPhoneNo  
phoneType



# Subjects and attributes

<b>Friends</b>	<b>Businesses</b>	<b>Addresses</b>	<b>Telephones</b>
friend1stName	businessName	street	AC
friendLastName	contact1Name	city	phoneNo
friendEmail	contactLastName	state	phoneType
spouse	businessContactPos	ZIP	
kidnames	businessEmail		
birthMon	businessURL		
birthDay			
holidayList			

# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendEmail  
spouse  
kidnames  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessEmail  
businessURL

## Addresses

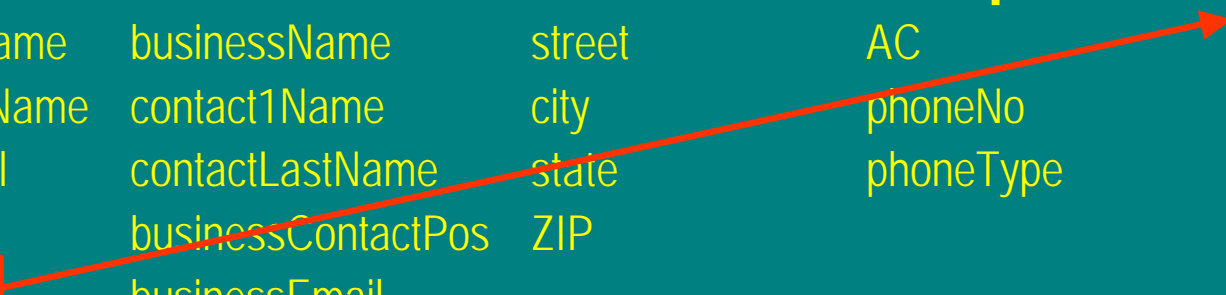
street  
city  
state  
ZIP

## Telephones

AC  
phoneNo  
phoneType

## Kids

kidnames



# Subjects and attributes

## Friends

friend1stName  
friendLastName  
friendEmail  
spouse  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessEmail  
businessURL

## Addresses

street  
city  
state  
ZIP

## Telephones

AC  
phoneNo  
phoneType

## Kids

kidnames

# Table definitions

- Friends: personal acquaintances. The Friends table allows me to track their personal information.
- Businesses: the people and companies I obtain goods and services from on a regular basis. This table lets me track the individuals that I deal with at a company, and the URL for the company.

# Table definitions

- **Addresses:** contains the information needed for posting mail. This table provides the physical location of businesses and friends houses.
- **Telephones:** phones numbers and the type of phone they connect to for businesses and friends.
- **Kids:** the names of friends' kids. Allows me to personalize holiday cards.

# Keys

## Friends

friend1stName  
friendLastName  
friendEmail  
spouse  
birthMon  
birthDay  
holidayList

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessEmail  
businessURL

## Addresses

street  
city  
state  
ZIP

## Telephones

AC  
phoneNo  
phoneType

## Kids

kidnames

# Keys

## Friends

friend1stName

friendLastName

friendEmail

spouse

birthMon

birthDay

holidayList

**\*fkey**

## Businesses

businessName

contact1Name

contactLastName

businessContactPos

businessEmail

businessURL

## Addresses

street

city

state

ZIP

## Telephones

AC

phoneNo

phoneType

## Kids

kidnames

# Keys

## Friends

friend1stName

friendLastName

friendEmail

spouse

birthMon

birthDay

holidayList

**\*fkey**

## Businesses

businessName

contact1Name

contactLastName

businessContactPos

businessEmail

businessURL

**\*bkey**

## Addresses

street

city

state

ZIP

## Telephones

AC

phoneNo

phoneType

## Kids

kidnames

# Keys

## Friends

friend1stName  
friendLastName  
friendEmail  
spouse  
birthMon  
birthDay  
holidayList

**\*fkey**

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessEmail  
businessURL

**\*bkey**

## Addresses

street  
city  
state  
ZIP

**\*addkey**

## Telephones

AC  
phoneNo  
phoneType

## Kids

kidnames

# Keys

## Friends

friend1stName

friendLastName

friendEmail

spouse

birthMon

birthDay

holidayList

**\*fkey**

## Businesses

businessName

contact1Name

contactLastName

businessContactPos

businessEmail

businessURL

**\*bkey**

## Addresses

street

city

state

ZIP

**\*addkey**

## Telephones

AC

phoneNo

phoneType

**\*phonekey**

## Kids

kidnames

# Keys

## Friends

friend1stName  
friendLastName  
friendEmail  
spouse  
birthMon  
birthDay  
holidayList

**\*fkey**

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessEmail  
businessURL

**\*bkey**

## Addresses

street  
city  
state  
ZIP

**\*akey**

## Telephones

AC  
phoneNo  
phoneType

**\*phonekey**

## Kids

kidnames

**\*kidKey**

Addresses

Kids

Friends

Businesses

Telephones

Kids

Friends

Addresses

Businesses

Telephones



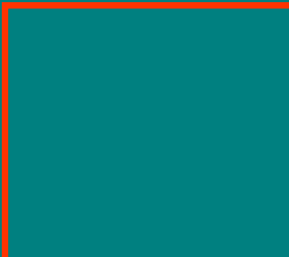
Kids

Friends

Addresses

Businesses

Telephones



Kids

Friends

Addresses

Businesses

Telephones



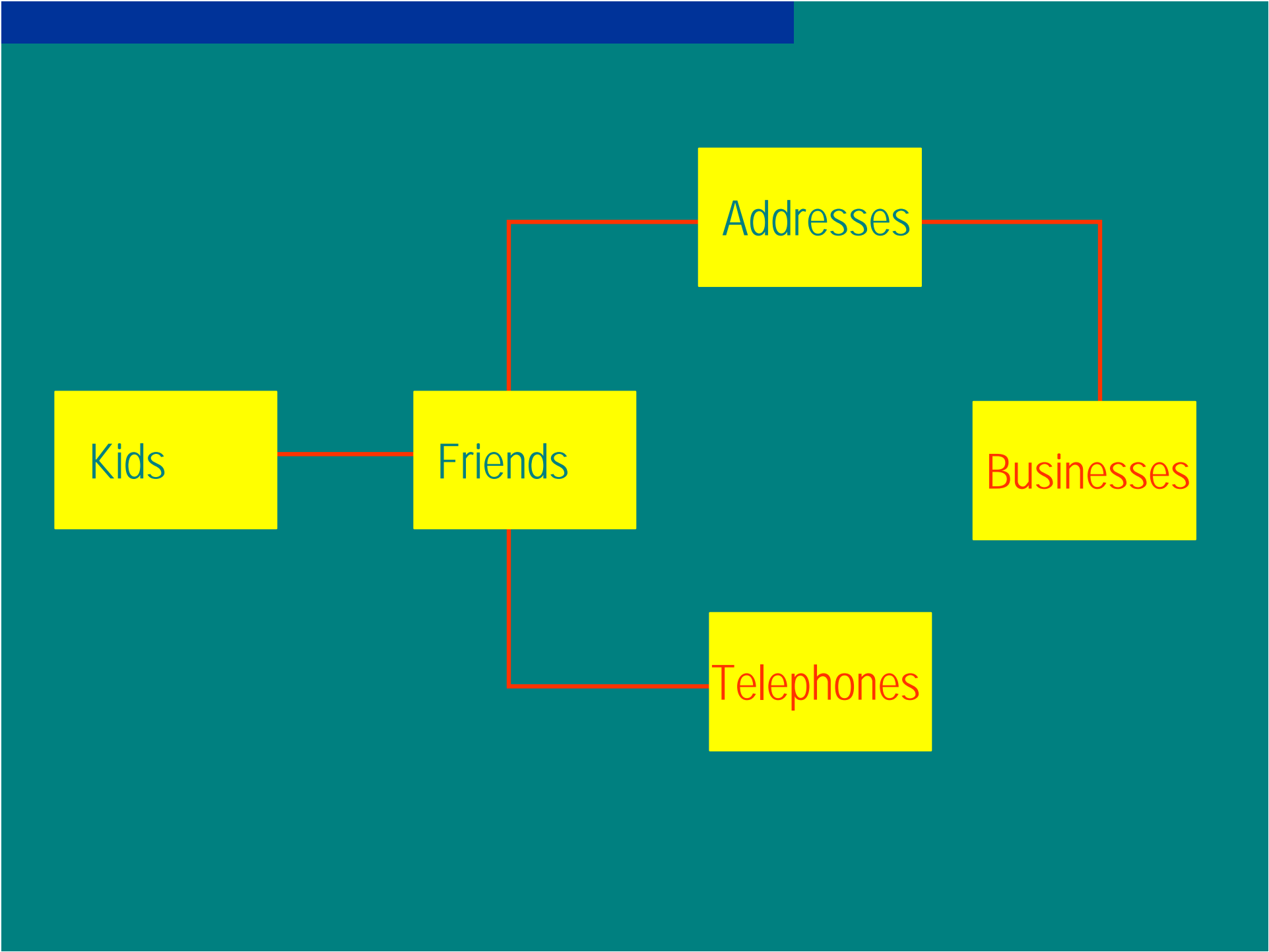
Kids

Friends

Addresses

Businesses

Telephones



Kids

Friends

Addresses

Businesses

Telephones



Kids

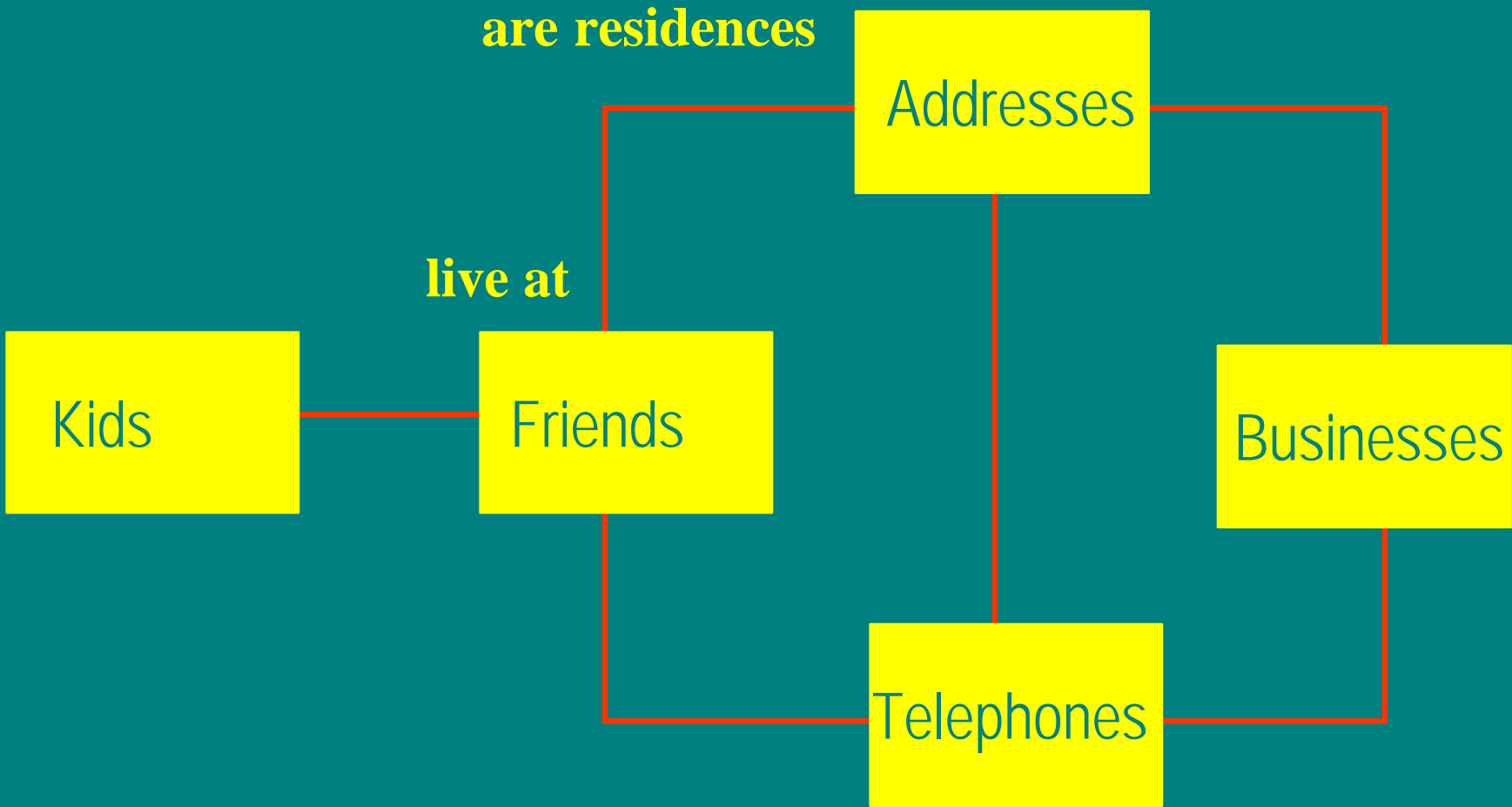
Friends

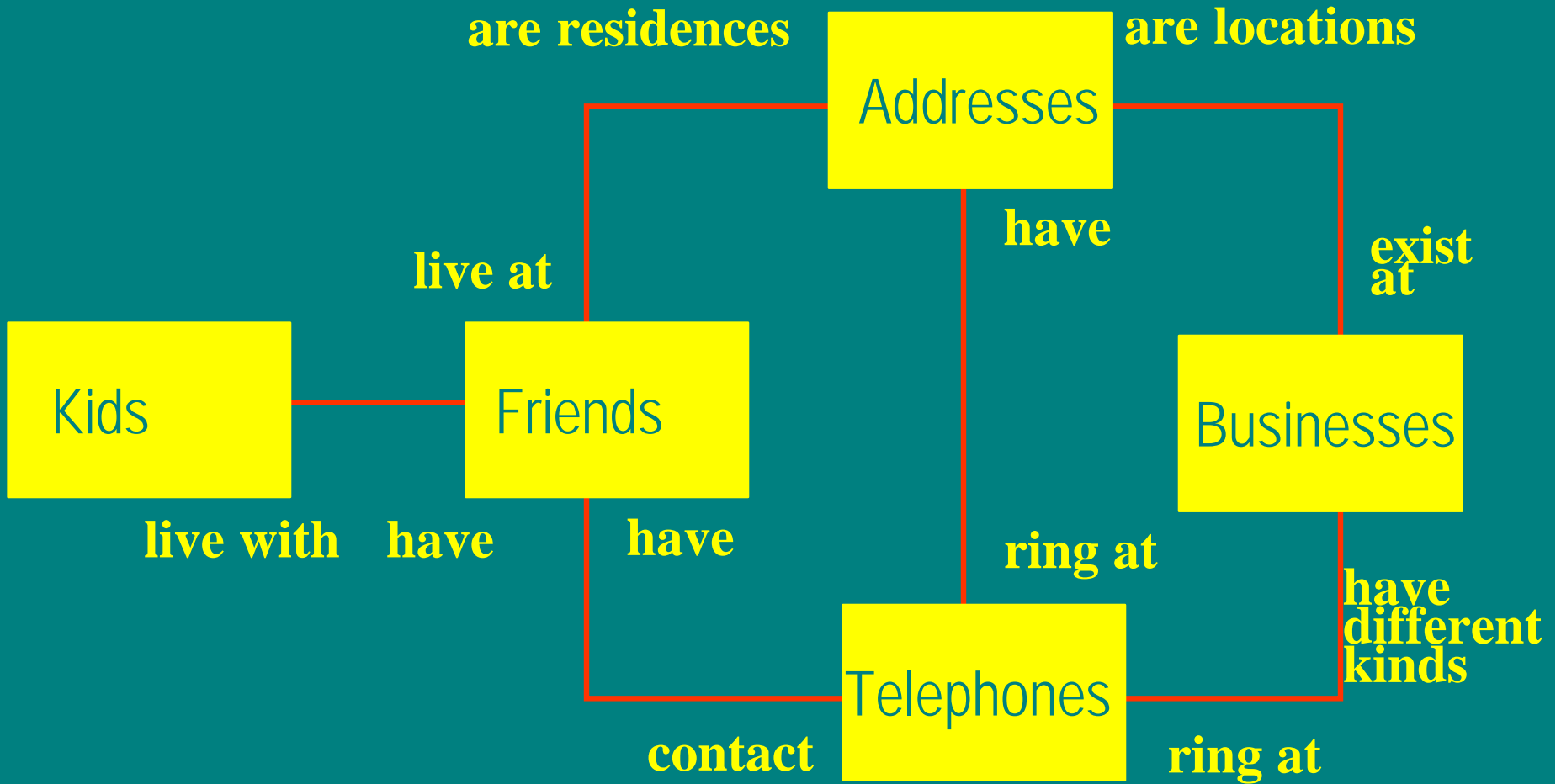
Addresses

Businesses

Telephones







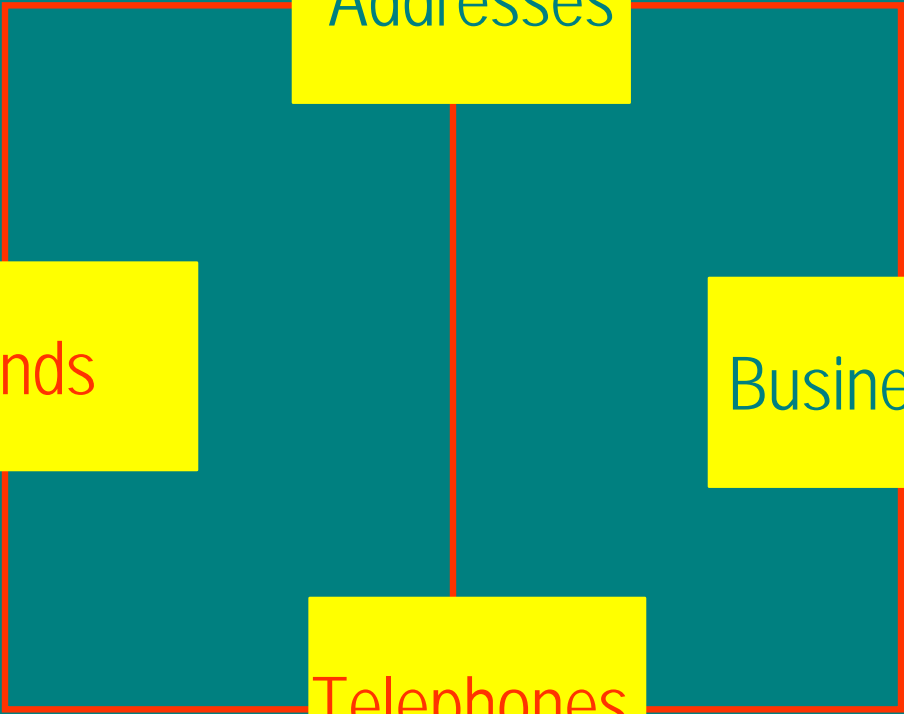
Kids

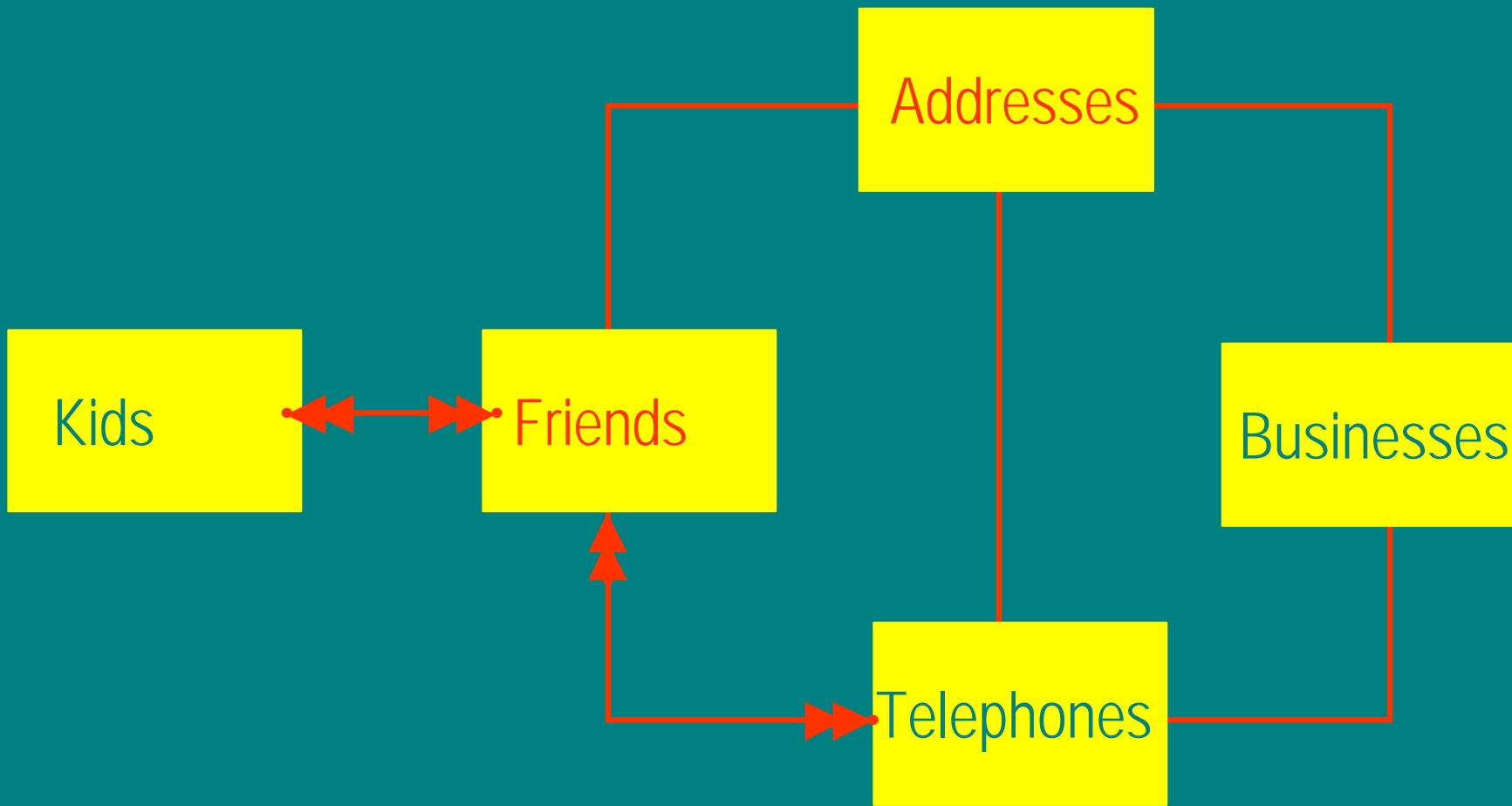
Friends

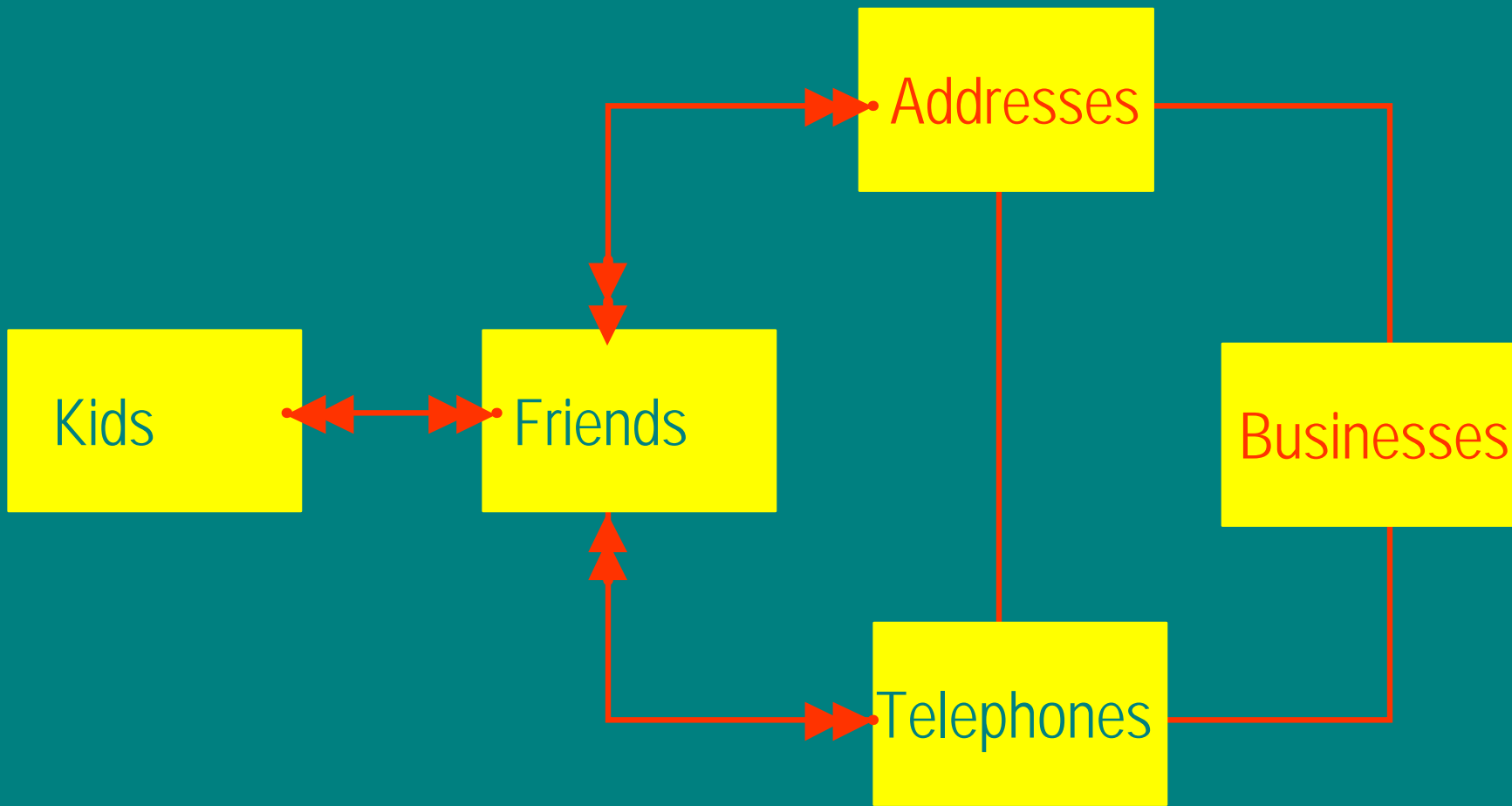
Addresses

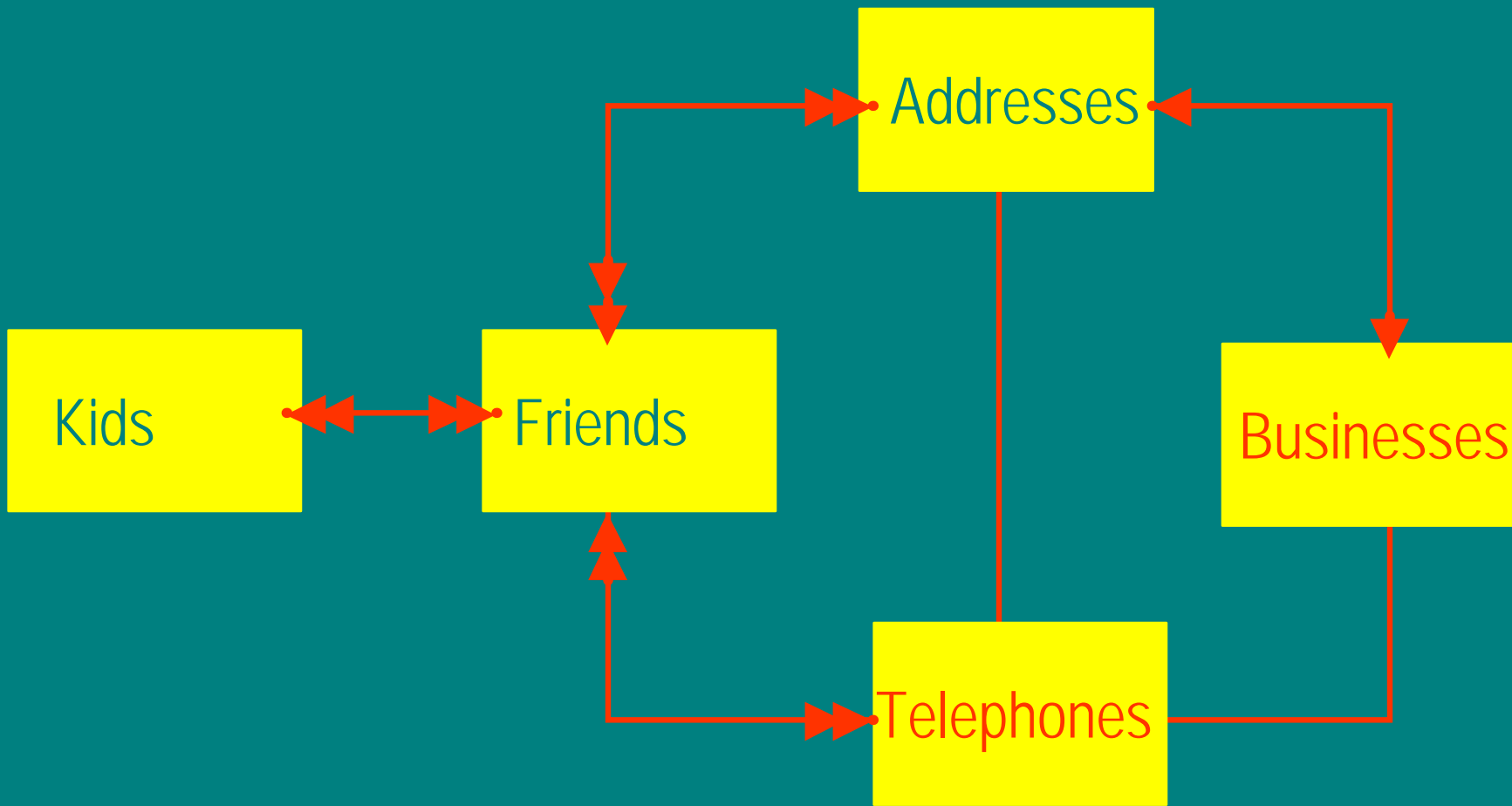
Businesses

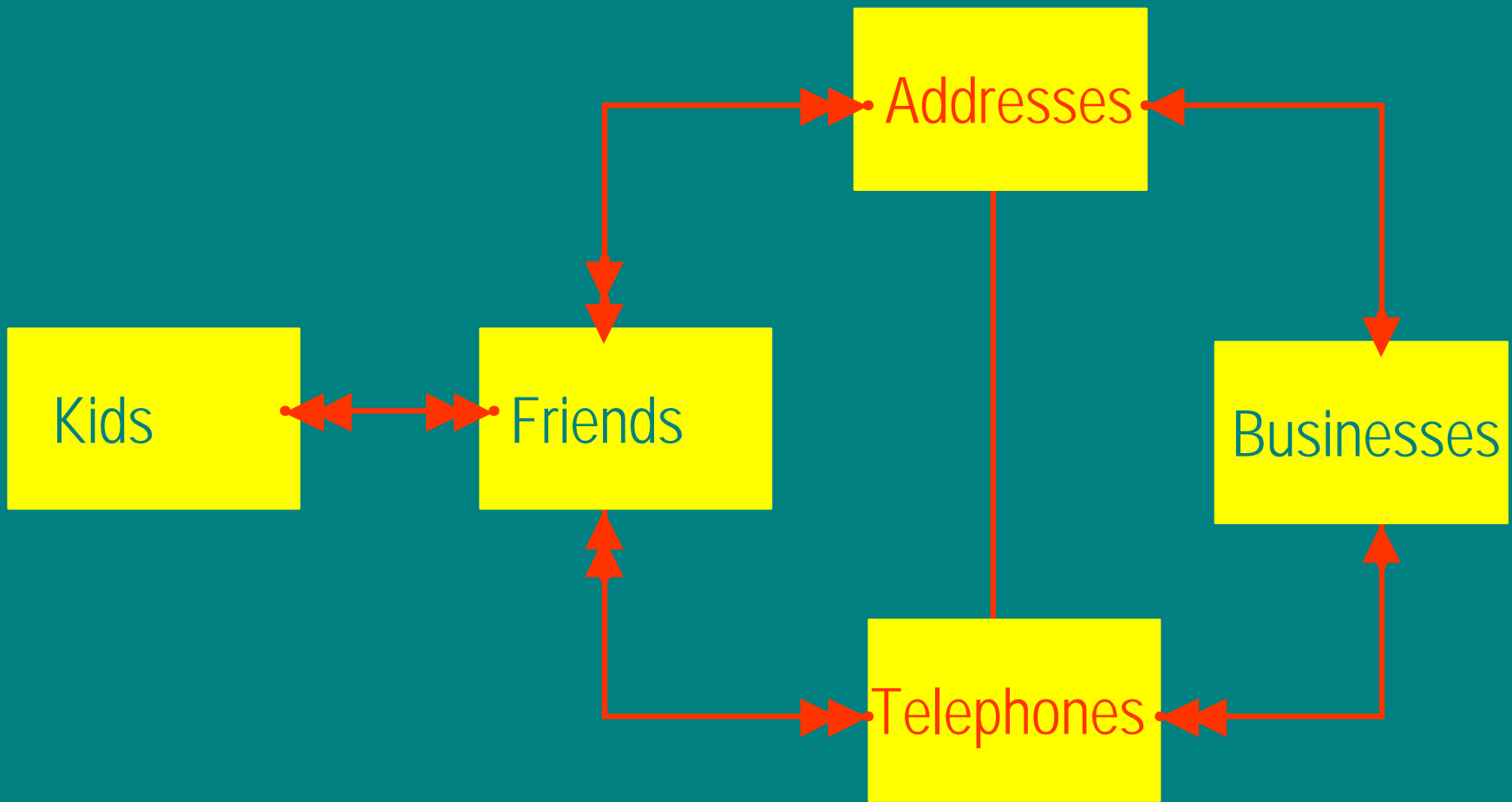
Telephones

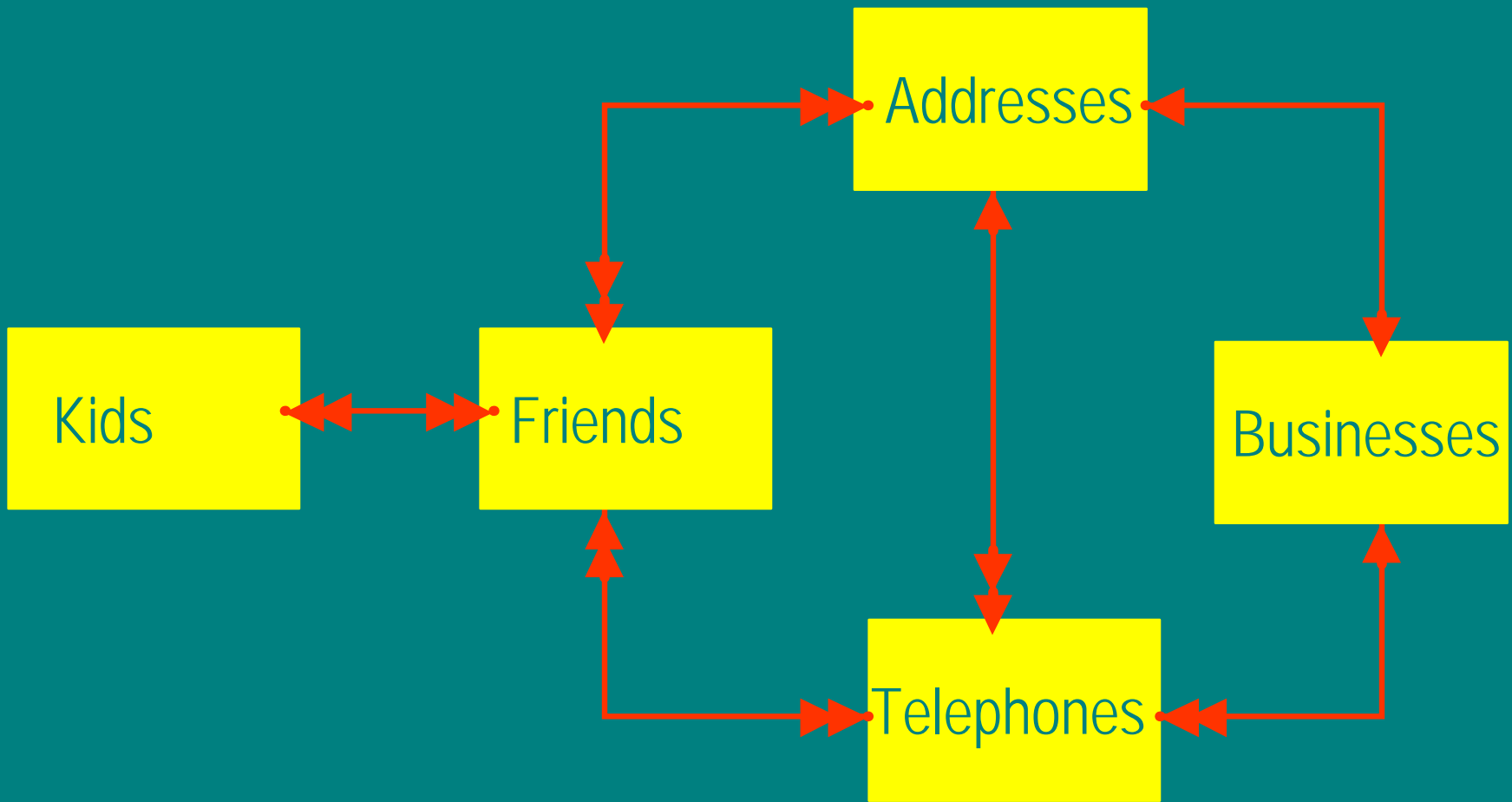


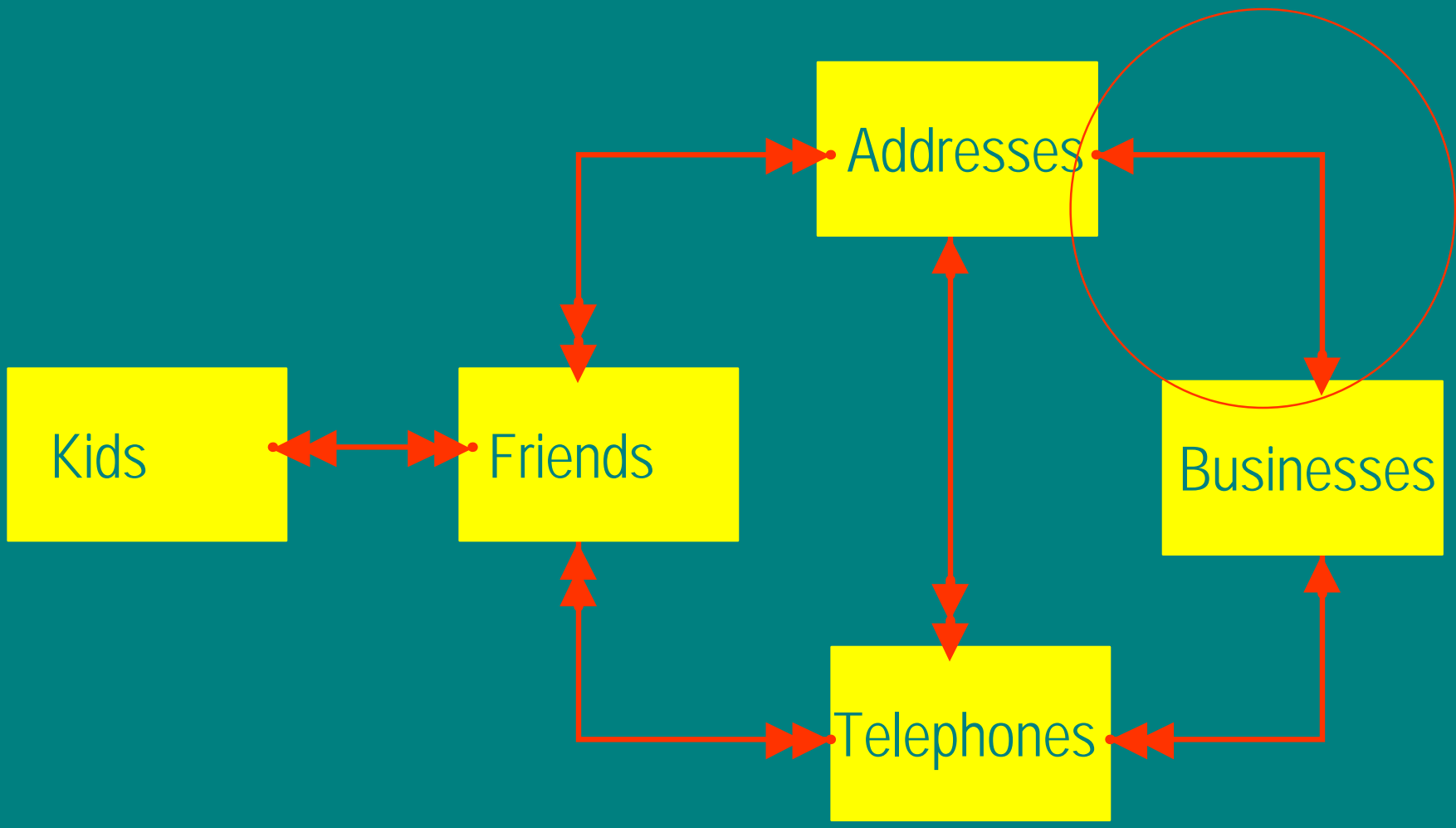












# Keys

## Friends

friend1stName  
friendLastName  
friendEmail  
spouse  
birthMon  
birthDay  
holidayList

**\*fkey**

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessEmail  
businessURL

**\*bkey**

## Addresses

street  
city  
state  
ZIP

**\*akey**

**+bkey**

## Telephones

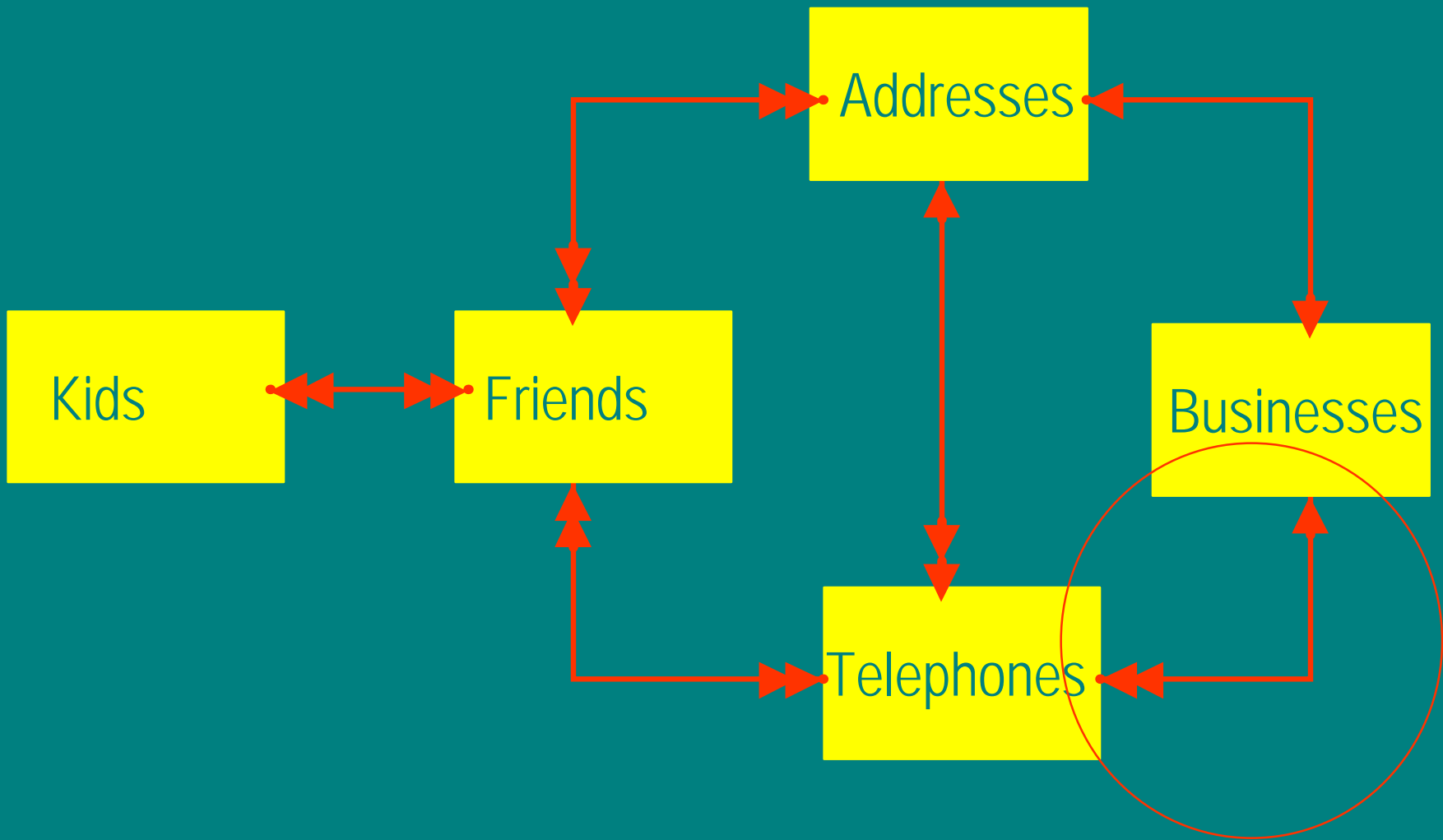
AC  
phoneNo  
phoneType

**\*phonekey**

## Kids

kidnames

**\*kidKey**



# Keys

## Friends

friend1stName

friendLastName

friendEmail

spouse

birthMon

birthDay

holidayList

**\*fkey**

## Businesses

businessName

contact1Name

contactLastName

businessContactPos

businessEmail

businessURL

**\*bkey**

## Addresses

street

city

state

ZIP

**\*akey**

**+bkey**

## Telephones

AC

phoneNo

phoneType

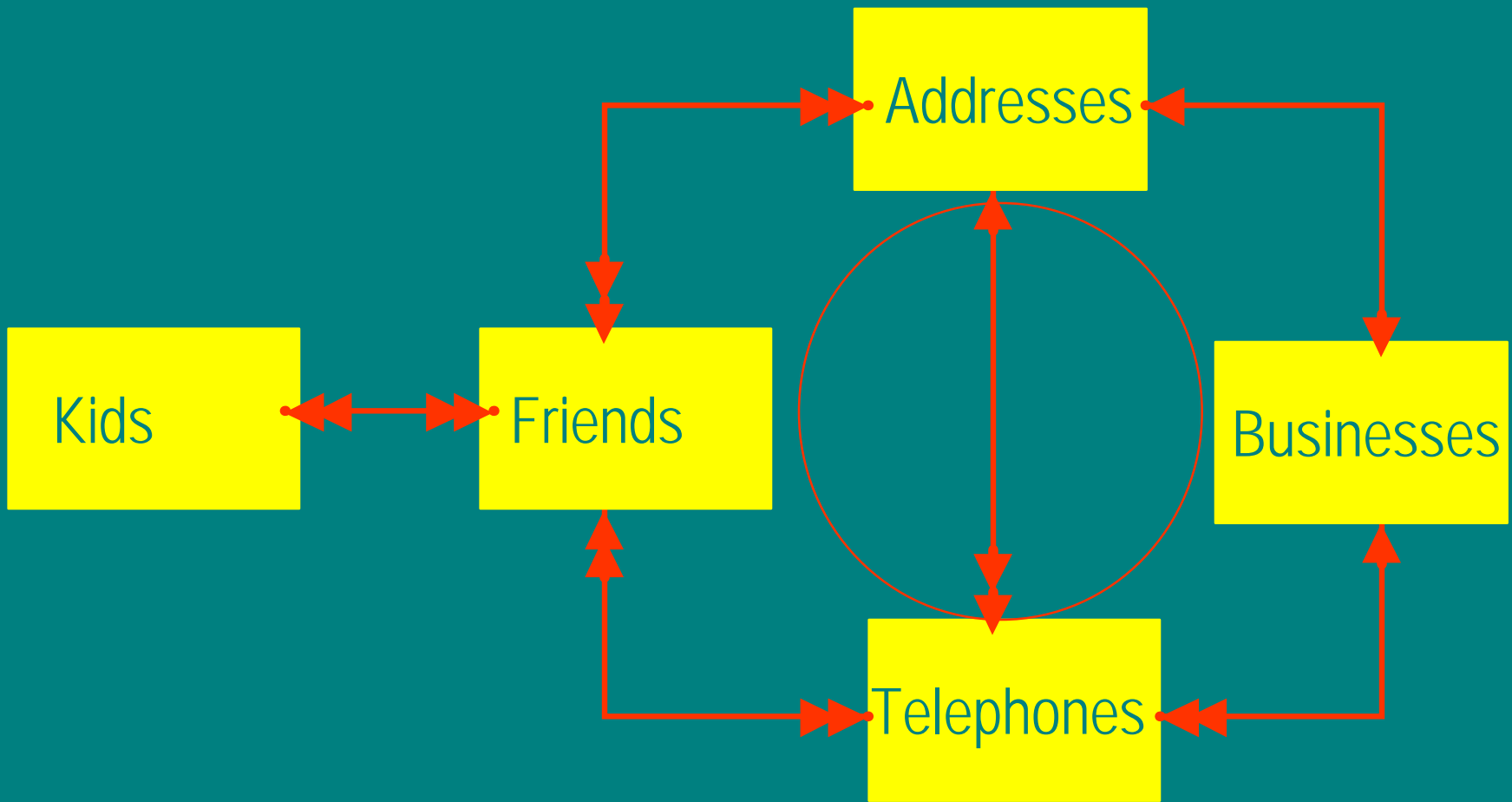
**\*phonekey**

**+bkey**

## Kids

kidnames

**\*kidKey**



# Keys

## Friends

friend1stName

friendLastName

friendEmail

spouse

birthMon

birthDay

holidayList

**\*fkey**

## Businesses

businessName

contact1Name

contactLastName

businessContactPos

businessEmail

businessURL

**\*bkey**

## Addresses

street

city

state

ZIP

**\*akey**

**+bkey**

## Telephones

AC

phoneNo

phoneType

**\*phonekey**

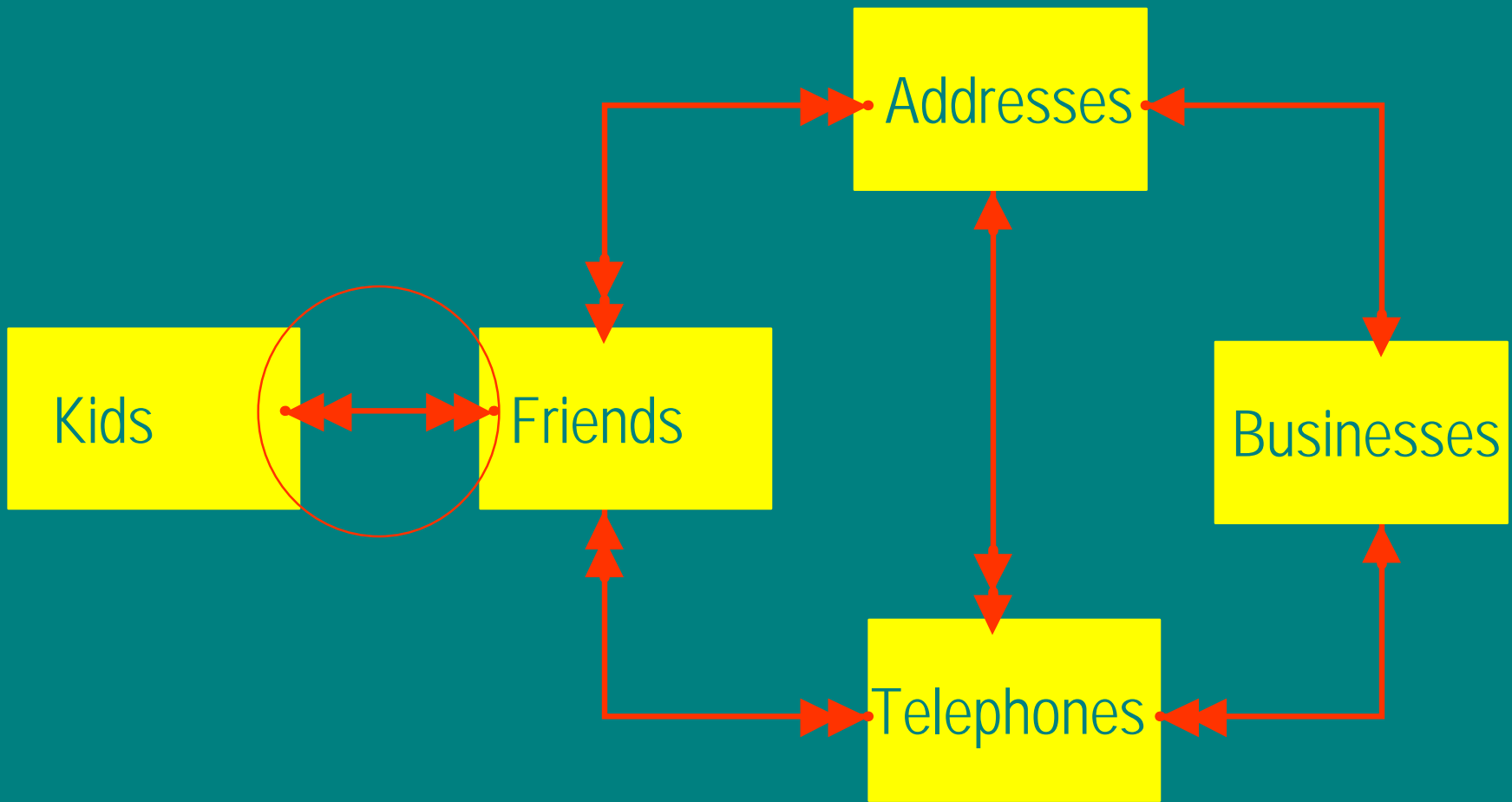
**+bkey**

**+akey**

## Kids

kidnames

**\*kidKey**



Friends/Kids

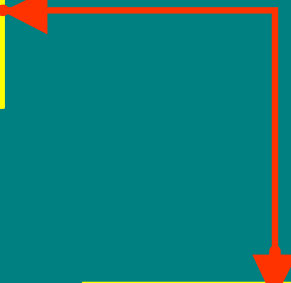
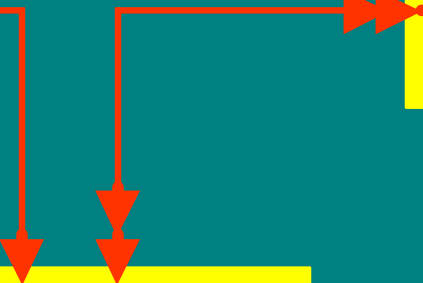
Addresses

Kids

Friends

Businesses

Telephones



# Keys

## Friends

friend1stName  
friendLastName  
friendEmail  
spouse  
birthMon  
birthDay  
holidayList

**\*fkey**

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessEmail  
businessURL

**\*bkey**

## Addresses

street  
city  
state  
ZIP  
**\*akey**  
**+bkey**

## Telephones

AC  
phoneNo  
phoneType  
**\*phonekey**  
**+bkey**  
**+akey**

## Kids

kidnames  
**\*kidKey**

## Friends/Kids

+fkey

+kidKey

Friends/Kids

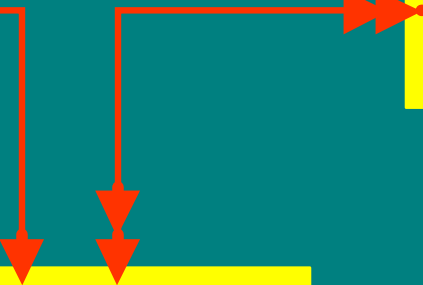
Addresses

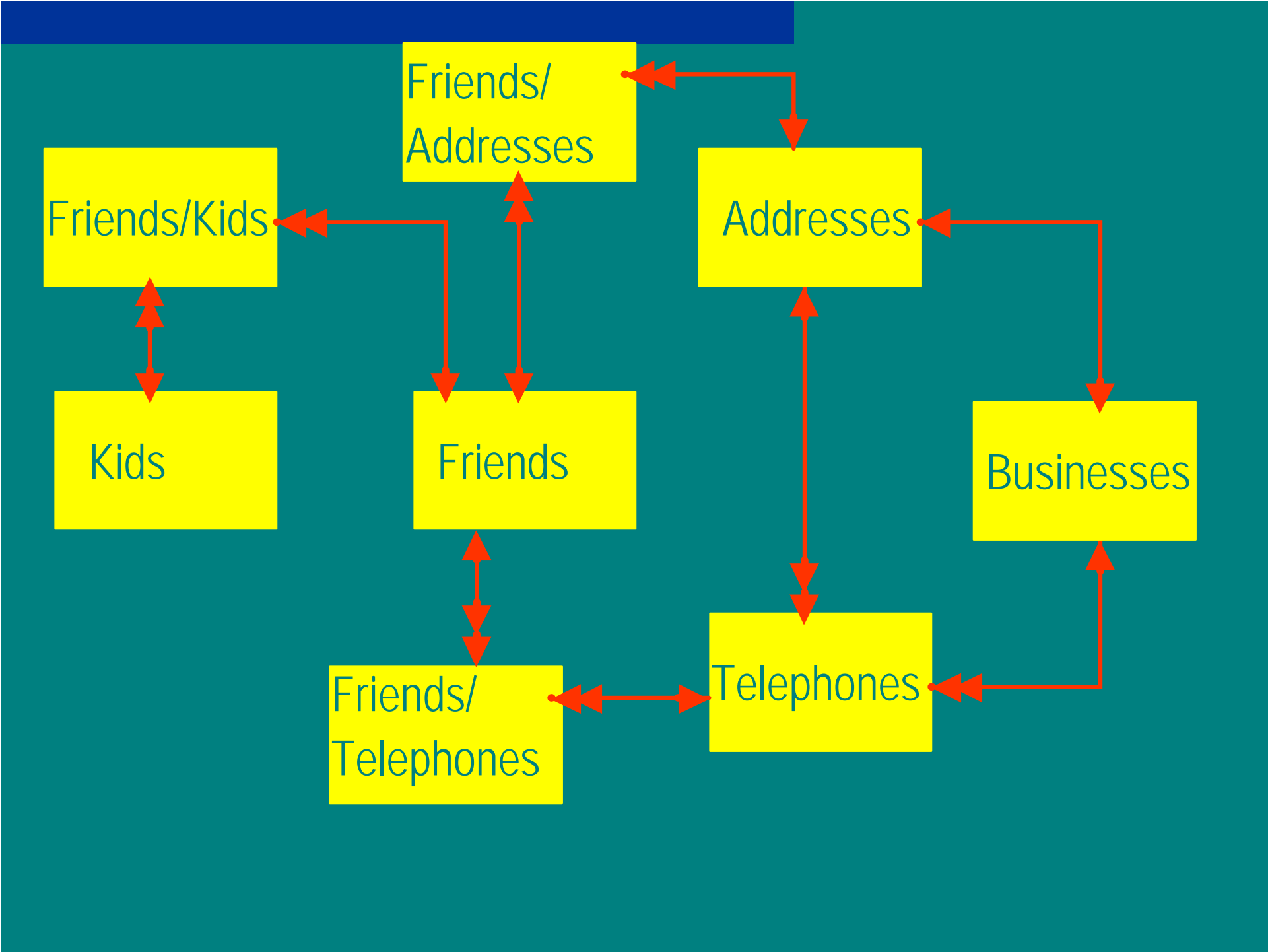
Kids

Friends

Businesses

Telephones





# Keys

## Friends

friend1stName  
friendLastName  
friendEmail  
spouse  
birthMon  
birthDay  
holidayList

**\*fkey**

## Businesses

businessName  
contact1Name  
contactLastName  
businessContactPos  
businessEmail  
businessURL

**\*bkey**

## Addresses

street  
city  
state  
ZIP

**\*akey**

**+bkey**

## Telephones

AC  
phoneNo  
phoneType

**\*phonekey**

**+bkey**

**+akey**

## Kids

kidnames

**\*kidKey**

## Friends/Kids

+fkey  
+kidKey

## Friends/Telephones

+fkey  
+phonekey

## Friends/Addresses

+fkey  
+akey