```python
x = input("enter card number for here to see what kind of card it is, and to check
whether or not it is a valid card:")


firstDigit = x[0]

firstTwoDigits = x[0:2]
xytotal = 0

if len(x) == 15:
    print("American Express")

    yur = int(x[13])*2, int(x[11])*2, int(x[9])*2, int(x[7])*2, int(x[5])*2,
int(x[3])*2, int(x[1])*2
    total = sum(yur)

    xyur = int(x[14]), int(x[12]), int(x[10]), int(x[8]), int(x[6]), int(x[4]),
int(x[2]), int(x[0])
    realTotal = sum(xyur)

    xtotal = total + realTotal
    xytotal = xtotal%10

    if xytotal == 0:
        print("valid card")
    else:
        print("invalid")


elif len(x) == 16 or firstTwoDigits in ["51","52","53","54","55"]:
    print("MasterCard")

    yur = int(x[14])*2, int(x[12])*2, int(x[10])*2, int(x[8])*2, int(x[6])*2,
int(x[4])*2, int(x[2])*2, int(x[0])*2
    total = sum(yur)

    xyur = int(x[15]), int(x[13]), int(x[11]), int(x[9]), int(x[7]), int(x[5]),
int(x[3]), int(x[1])
    realTotal = sum(xyur)

    xtotal = total + realTotal
    xytotal = xtotal%10
    if xytotal == 0:
        print("Valid card")
    else:
        print("Invalid")


elif len(x) == 16 and firstDigit in ["4"]:
    print("Visa")
    yur = int(x[14])*2, int(x[12])*2, int(x[10])*2, int(x[8])*2, int(x[6])*2,
int(x[4])*2, int(x[2])*2, int(x[0])*2
    total = sum(yur)

    xyur = int(x[15]), int(x[13]), int(x[11]), int(x[9]), int(x[7]), int( x[5]),
int(x[3]), int(x[1])
    realTotal = sum(xyur)
```

```python
    xtotal = total + realTotal
    xytotal = xtotal%10

    if xytotal == 0:
        print("valid card")
    else:
        print("invalid")


elif len(x) == 13 and firstDigit in ["4"]:
    print("Visa")
    yur13 = int(x[11])*2, int(x[9])*2, int(x[7])*2, int(x[5])*2, int(x[3])*2,
int(x[1])*2
    total13 = sum(yur13)

    xyur13 = int(x[12]), int(x[10]), int(x[8]), int(x[6]), int(x[4]), int(x[2]),
int(x[0])
    realTotal13 = sum(xyur13)

    xtotal13 = total13 + realTotal13
    xytotal13 = xtotal13%10
    if xytotal13 == 0:
        print("valid card")
    else:
        print("Invalid")
```

```python
#ask Rosen about if I should put "and", or, "or" for the mastercard if function


    #American Express uses 15-digit numbers, MasterCard uses 16-digit numbers, and
Visa uses 13- and 16-digit numbers.
    ## All American Express numbers start with 34 or 37; most MasterCard numbers
start with 51, 52, 53, 54, or 55 (they also have some other potential starting
numbers which we won't concern ourselves with for this problem); and all Visa
numbers start with 4.
    #mastercard test card: 5105105105105100
    # American express: 371449635398431
        #visa:4012888888881881
# mastercard 5555555555554444

# visa 13 - 4222222222222
```