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def somme():
    a=int(w.a.text())
    b=int(w.b.text())
    w.res.setText(w.a.text()+" + "+w.b.text()+" = "+str(a+b))
def soustraction():
    a=int(w.a.text())
    b=int(w.b.text())
    w.res.setText(w.a.text()+" - "+w.b.text()+" = "+str(a-b))
def produit():
    a=int(w.a.text())
    b=int(w.b.text())
    w.res.setText(w.a.text()+" * "+w.b.text()+" = "+str(a*b))

def division():
    a=int(w.a.text())
    b=int(w.b.text())
    w.res.setText(w.a.text()+" / "+w.b.text()+" = "+str(a/b))
#*****

def reset():
    w.a.clear()
    w.b.clear()
    w.res.clear()

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def verifMinus(ch):
    i=0
    ok=True
    while(i<= len(ch)-1 and ok):
        if not (ord('a') <= ord(ch[i]) <= ord('z')):
            ok=False
        else:
            i=i+1
    return ok
def verif(ch1,ch2):
    msg=""
    if(ch1=="" or ch2==""):
        msg="Veuillez introduire deux chaines non vides"
    else:
        if(len(ch1)>30 or len(ch2) >30 or not verifMinus(ch1) or not verifMinus(ch2)):
            msg="Veuillez introduire deux chaines valides"
    return msg

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def play():
    #recuperation des chaines ch1 et ch2
    ch1= w.ch1.text()
    ch2=w.ch2.text()
    # verification des chaines ch1 et ch2
    w.resLabel.setText(verif(ch1,ch2))

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def verifEspace(ph):
    ok=True
    i=0
    while(i<= len(ph)-2 and ok== True):|
        if(ph[i]==" " and ph[i+1]==" "):
            ok=False
        else:
            i=i+1
    return ok

def verif(ph):
    msg=""
    if(ph==" " or len(ph)>50 or not ("A" <= ph[0].upper()<= "Z")):
        msg= "Veuillez introduire une phrase"
    elif not (ph[len(ph)-1]=="."):
        msg="La chaine doit se terminer par un point"
    elif not verifEspace(ph):
        msg="Entre 2 mots un seul espace est autorisé"
    return msg

def play():
    ph=w.ph.text()
    msg=verif(ph)
    w.labAffiche.setText(msg)

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```

def play():
    X=w.X.text()

    msg=""
    if not(5 <= len(X) <= 20) or not (X.isdecimal()):
        msg="Veuillez saisir un nombre de 5 à 20 chiffres"
        w.res.setText(msg)

```

```

def play():
    N=w.N.text()
    M=w.M.text()

    msg=""
    if not(200 <= len(N) <= 999999) or not(3 <= len(M) <= 10) or not (N.isdecimal())or not (M.isdecimal()):
        msg="Veuillez respecter 200 <= N <= 999999 et 3 <= M <= 10 "
        w.res.setText(msg)

```