

10/9 課題
最大公約数

```
integer :: m, n, k
print *, 'Input two integers m, n (>0):'
read *, m, n
if(m>0 .and. n>0) then
  do
    k = mod(m, n)
    if(k==0) exit
    m = n
    n = k
  end do
  if(n/=1) then
    print *, '最大公約数=', n
  else
    print *, "公約数なし"
  end if
end if
end
```

10/30 課題

二分法

```
program nibunhou1
implicit none
real(8) :: x1,x2,c,x,f,r,er,er0=1.0d-6
integer n
f(x)=x**2-5
open(10, file='input.d')
open(20, file='output.d')
read(10,*) x1, x2
close(10)
r=f(x1)
write(6,*)'start'
do n=1,100
  c=(x1+x2)/2
  if(f(c).gt.0) then
    x2=c
  else
    x1=c
  end if
  write(20,'(i5, a6, e18.10)') n, 'kaime', c
  er=abs(x2-x1)
  if(er < er0) go to 1
  continue
end do
1 write(20,*) 'keisan syuryo'
stop
close(20)
end program
```

11/13 授業中演習

並べ替え

```
program sort
implicit none
integer :: m, mark(100), n=0,max,maxi,i,j
do while (n<=99)
  write(*,*) "Input integer, or negative one to stop:"
  read(*,*)m
  if(m<=0) exit
  n=n+1
  mark(n)=m
end do
do i=1,n-1
  max=mark(i)
  maxi=i
  do j=i+1,n
    if(mark(j)>max) then
      max=mark(j)
      maxi=j
    end if
  end do
  if (maxi /=i) then
    mark(maxi)=mark(i)
    mark(i)=max
  end if
end do
do i=1,n
  write(*, "('rank', i3, ' = ', i10)", i, mark(i))
end do
end program sort
```

11/13 課題
パスカルの三角形

```
program pascal
implicit none
integer :: a(100,100), i,j,n,k
write(*,'(a%)') 'input n : '
read(*,*) n
do i=1,n
do j=1,i
if(j==1.or.j==i) then
a(i,j)=1
else
a(i,j)=a(i-1,j-1)+a(i-1,j)
end if
end do
do k=1,(n-i)*3
write(*,'(a%)') '
end do
write(*,'(13i6)') (a(i,j),j=1,i)
write(*,*) ' '
end do
end program pascal
```

11/20 課題

円卓

```
program entaku
implicit none
integer a(0:5,0:21),i,j,k
open(1,file='input.txt')
read(1,*) (a(0,j),j=1,20)
close(1)
a(0,21)=a(0,1)
a(0,0)=a(0,20)
do i=1,5
do j=1,20
if(a(i-1,j-1)==a(i-1,j+1)) then
a(i,j)=a(i-1,j-1)
else
a(i,j)=a(i-1,j)
endif
enddo
a(i,21)=a(i,1)
a(i,0)=a(i,20)
enddo
do i=0,5
if(i==0) then
write*,'(1x,a6)' 'はじめ'
else
write*,'(i2,a4)' i,'回目'
end if
write*,'(4x,4i2)' (a(i,j),j=1,4)
write*,'(2x,i2,8x,i2)' (a(i,j),j=20,5,-15)
do k=1,4
write*,'(i2,12x,i2)' (a(i,j),j=20-k,5+k,-15+2*k)
enddo
write*,'(2x,i2,8x,i2)' (a(i,j),j=15,10,-5)
write*,'(4x,4i2)' (a(i,j),j=14,11,-1)
enddo
end program entaku
```