Øving 8 Datateknikk

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Oppgave 1 - Practice-oppgaver

```
%Practice 6.1

l=input('Please enter the length of the rectangle: ');
w=input('Please enter the width of the rectangle: ');

[perim area] = perimarea(l,w);

fprintf('For the rectangle with a length of %.1fm and a width of ...
    %.1fm,\n',l,w);
fprintf('the perimeter is %.1fm and area is %.1fm^2.\n', ...
    perim,area);
```

```
%Practice 6.1 - function
%Call a function to calculate and return the perimeter and area
%of a rectangle.
function [perim,area] = perimarea(le,wi)

perim = 2*(le+wi);
area = (le*wi);
end
```

```
%Practice 6.2
function vectors(vec)

r=size(vec,2)
for i=1:r
    fprintf('Element %d is: %.1f.\n',i,vec(i));
end
```

```
%Practice 6.3
%Promts the user for a string of at least one character, error ...
    checks as well.

function outstr= checkit(str)

disp('Enter a string with at least one character: ');
outstr = input('Enter string here: ', 's');
if outstr =="";
    error('Error. At least one character needed');
else if ¬isstrprop(outstr,'alpha')
        error('Error. At least one character needed');
    end
end


end
```

```
%Practice 6.6
%Prompts the user to enter a positive number. Error checks.

function num = posnum

num = input('Enter a positive number: ');

while num <0
    errorsubfn(num)
    num=input('Enter a positive number: ');
end
end

function errorsubfn(num)

persistent count;

if isempty(count)
    count=0;
end

count = count+1
fprintf('Error #%d..Follow instructions!\n',count);
fprintf('Does %.2f look like a positive number to you?\n',num);

end
```

Oppgave 2 - Deltaker- og Puljenummer

```
%Oppgave 2
%Skriver ut og holder rede p  pulje og ∆ger for hvert k j r .

function pulDelNum

persistent count
persistent pulj

if isempty(pulj) || isempty(count)
    count=1;
    pulj=1;
elseif count≥10
    count=1;
    pulj=pulj+1;
else
    count=count+1;
end

fprintf('Pulje: %d. Deltaker: %d.\n',pulj,count);
end
```

Oppgave 3 - Egendefinerte funksjoner og en sub-funksjon

```
%Oppgave 3 – Main
%Utregning av en rettvinklet trekant

[hyp vink]= rettVinkTre;
skrivTrekant(hyp,vink);
```

```
%Prompter brukeren for verdiene  p   hypotenusen og vinkelen.
function [hyp,vink] = rettVinkTre

hyp = input('Skriv inn hypotenusen: ');
vink = input('Skriv inn vinkelen i radianer: ');

end
```

```
%Utskrift av svaret.
function skrivTrekant(hyp,vink)
[a b]=kalkAB(hyp,vink);

fprintf('\n')
fprintf('For en rettvinklet trekant med hypotenus %.1f\n',hyp);
fprintf('og en vinkel  p   %.2f radianer mellom side a og ...
    hypotenusen,\n',vink);
fprintf(' s   er side a = %.2f og side b= %.2f.\n',a,b);

end

function [a,b]=kalkAB(hyp,vink)
%Beregner sidene

a=hyp*cos(vink);
b=hyp*sin(vink);

end
```