تمرین سری ششم مطلب

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Q1:

```
clear
clc
N=input('Enter the ceil number here: ');
if N<2
   return;
elseif N==2
   disp(2);
   return;
end
C=1;
Pr(1)=2;
Pr(2)=3;
Count=3;
for i=4:N
 for k=2:(ceil(sqrt(i)))
   if mod(i,k)==0
     C=0;
     break
   end
 end
 if C==1
     Pr(Count)=i;
     Count = Count +1;
 end
 C=1;
end
disp(Pr);
```

Q2:

```
clear
clc
str=input('Enter your string here: ');
s=length(str);
count=0;
for i=1:s
  switch str(i)
    case 'a'
      count=count+1;
    case 'e'
      count=count+1;
    case 'i'
      count=count+1;
    case 'o'
      count=count+1;
    case 'u'
      count=count+1;
    otherwise
      count=count;
  endswitch
end
count
```

Q3:

```
clear
clc
str=input('Enter your string here: ');
s=length(str);
count=0;
for i=1:s
```

```
 if str(i)== 'a'
    count=count+1;
 elseif str(i)== 'e'
    count=count+1;
 elseif str(i)== 'i'
    count=count+1;
 elseif str(i)== 'o'
    count=count+1;
 elseif str(i)== 'u'
    count=count+1;
 else
    count=count;
 endif
end
count
```

Q4:

```
clear
clc
a=input('Enter the numbers here: ');
for i=1:5
 if !and(a(i)>=0,a(i)<=4)
   a=input('numbers should be between 0 to 4: ');
 endif
end
for i=1:5
 answer=input('Enter your guess here: ');
 if answer==a
   disp('You win ^-^')
   break
 endif
```

```
  for j=1:5
    if answer(j)==a(j)
      disp(['The number in the ' num2str(j) 'th spot is correct!'])
    endif
  endfor
if i==5
  if answer==a
    disp('You win ^-^')
  else
    disp('You lose >-< ')
  endif
endif
endfor
```

Q5:

```
clear
clc
a=input('Enter the matrix here: ');
[r,c]=size(a);
sum=0;
for i=1:r
  for k=1:c
    for i2=1:r
      for j2=1:c
        if and(and(i2>=(i-1),i2<=(i+1)),and(j2>=(k-1),j2<=(k+1)))
          sum=sum+a(i2,j2);
        endif
      endfor
    endfor
    j(i,k)=sum;
    sum=0;
```

```
 endfor
end
j
```

Q6:

```
clear
clc
x(1)=0;
dt1=.01;
t(1)=0;
for i=1:200
 t(i+1)=t(i)+dt1;
 x(i+1)=x(i)+(dt1*(-cos((x(i)*t(i))+5)-(10*x(i))-(sqrt((5*t(i))+1))));
end
plot(t,x)
hold on
dt2=.1;
x2(1)=0;
t2(1)=0;
for i=1:20
 t2(i+1)=t2(i)+dt2;
 x2(i+1)=x2(i)+(dt2*(-cos((x2(i)*t2(i))+5)-(10*x2(i))-(sqrt((5*t2(i))+1))));
end
plot(t2,x2)
```

Q7:

```
clear
clc
%y=2*sin(3*x)+3*cos(2*x);
%I =-6*sin(2*x) + 6*cos(3*x);
x(1)=.5;
```

```
for i=1:10000000000
  dy=-6*sin(2*x(i)) + 6*cos(3*x(i));
  x(i+1)=x(i)-(0.01*dy);
  if abs(dy)<=0.00000000000001
    break
  endif
end
ymin=2*sin(3*x(end))+3*cos(2*x(end))
```