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كلية التربية
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نموذج اجابة – ورقة كاملة
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Benha University | Faculty of Education
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Class: 3rd year | Time Allowed: 2 Hours
Subject: Introduction to Computers | Examiner: Dr. Abdelhameed

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Answer the following questions:

Question 1:

Given the arrays

y = [1 2 3 -1 -2] , z = [-1 0 3 4 5] and A = [-1 2 0;4 -5 -1;1 -2 3].

What is the result of the following statements?

1) A(:,1)./A(:,3)	2) A(1:2:3,:)	3) g = y(end:-1:2)
4) y(5) = []	5) diag(A)	6) A.^2
7) size(A)	8) sum([z,-1,5])	9) length(y)
10) mean(y)	11) [d,n]=max(A(:))	12) [A; y(1:3)]
13) A(2,:) + [0 -2 1]	14) A+3*eye(3)	15) who
16) whos	17) all(y)	18) any(z)
19) find(y>2)	20) S = diag(z)	21) min(z)
22) D = sort(y)	23) W = ~(z>3)	24) V = (y > 2)& (z<-1)

Question 2:

What is the value after executing the following code?

```
n = -5;
while (n <= 3)
    if (n== -5)
       z = n+2
    elseif (n>= -4  & n<=1)
       z = n-3
     elseif (n == 2)
       z = n*3
     else
       z  = n^3
    end
   n = n+ 1;
end
```

Question 3:

a) Given y = 22/7, complete the following sentences

1) >> format short, y = ...
2) >> format long, y = ...
3) >> format short g, y = ...
4) >> format bank, y = ...
5) >> floor(y) = ...
6) >> round(y) = ...
7) >> ceil(y) = ...
8) >> fix(y) = ...

b) Write a Matlab program to compute the sequence

$$1+2+4+8+\cdots+128$$

With my best wishes

Model Answer

Question 1:

```
>> y = [1    2   3  -1  -2]
>> z = [-1   0   3   4   5]
>> A = [-1  2  0;4  -5  -1;1  -2  3]
```

1) A(:,1)./A(:,3)

```
ans =
    -Inf
   -4.0000
    0.3333
```

2) A(1:2:3,:)

```
ans =
    -1     2     0
     1    -2     3
```

3) g = y(end:-1:2)

```
g =
    -2    -1     3     2
```

4) y(5) = []

```
y =
     1     2     3    -1
```

5) diag(A)

```
ans =
    -1
    -5
     3
```

6) A.^2
ans =
```
   1     4     0
  16    25     1
   1     4     9
```

7) size(A)
ans =
```
   3     3
```

8) sum([z,-1,5])
ans =
```
   15
```

9) length(y)
ans =
```
   5
```

10) mean(y)
ans =
```
   0.6000
```

11) [d,n]=max(A(:))
d =
```
    4
```
n =
```
    2
```

12) [A; y(1:3)]
ans =
```
   -1     2     0
    4    -5    -1
    1    -2     3
    1     2     3
```

13) A(2,:) + [0 -2 1]
ans =
4 -7 0

14) A+3*eye(3)
ans =
2 2 0
4 -2 -1
1 -2 6

15) who
Your variables are:
A y z

16) whos

Name	Size	Bytes	Class
A	3x3	72	double
y	1x5	40	double
z	1x5	40	double

17) all(y)
ans =
1

18) any(z)
ans =
1

19) find(y>2)
ans =
3

20) S = diag(z)
S =

-1	0	0	0	0
0	0	0	0	0
0	0	3	0	0
0	0	0	4	0
0	0	0	0	5

21) min(z)
ans =

-1

22) D = sort(y)
D =

-2	-1	1	2	3

23) W = ~(z>3)
W =

1	1	1	0	0

24) V = (y > 2)& (z<-1)
V =

0	0	0	0	0

Question 2:

n = -5, → z = n+2= -5+2 = -3
n = -4, → z = n-3= -4-3 = -7
n = -3, → z = n-3= -3-3 = -6
n = -2, → z = n-3= -2-3 = -5
n = -1, → z = n-3= -1-3 = -4
n = 0, → z = n-3= 0-3 = -3
n = 1, → z = n-3= 1-3 = -2
n = 2, → z = n*3= 2*3 = 6

n = 3, → z = n^3= 3^3 = 27

The result is
z =
-3 -7 -6 -5 -4 -3 -2 6 27

Question 3:
a) y = 22/7
1) >> format short, y = 3.1429
2) >> format long, y = 3.142857142857143
3) >> format short g, y = 3.1429
4) >> format bank, y = 3.14
5) >> floor(y) = 3
6) >> round(y) = 3
7) >> ceil(y) = 4
8) >> fix(y) = 3

b)
```
function sum=series(n)
sum =0;
for n = 1: n
   sum = sum +  2^(n-1) ;
end
end
```

To run the program from the command window, we put
>> sum=series(8)
sum =
255