

ME 318M Homework #2

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Section Number: 17460

Problem 1:

```
>> X1 = 2; X2 = 5; X3 = 20; X4 = 10; X5 = 8; X6 = 6;  
>> save Homework2Problem1 X*
```

```
>> HW2CODE
```

The sample mean of these numbers is 8.5.

The standard deviation of these numbers is 5.6199.

Workspace	
Name ^	Value
X1	2
X2	5
X3	20
X4	10
X5	8
X6	6

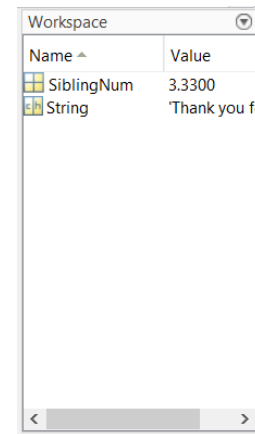
Workspace	
Name ^	Value
Mean	8.5000
MString	'The sample mea
SDString	'The standard de
StDev	5.6199
X1	2
X2	5
X3	20
X4	10
X5	8
X6	6

```
1 - clear  
2 - load Homework2Problem1  
3 -  
4 - Mean = (X1 + X2 + X3 + X4 + X5 + X6) / 6 ;  
5 - StDev = sqrt(((X1 - Mean)^2 + (X2 - Mean)^2 + (X3 - Mean)^2 + (X4 - Mean)^2 + (X5 - Mean)^2 + (X6 - Mean)^2) / 6 - 1);  
6 -  
7 - MString = ['The sample mean of these numbers is ', num2str(Mean), '.'];  
8 - SDString = ['The standard deviation of these numbers is ', num2str(StDev), '.'];  
9 -  
10 - disp(MString)  
11 - disp(SDString)
```

Problem 2:

```
1 - SiblingNum = input('How many siblings do you have? ');
2 - String = ['Thank you for letting me know that you have ', num2str(SiblingNum), ' siblings.'];
3 - disp(String)
4
5 - %there are no constraints set on the value you can input
6 - %so negatives and non-integers do not cause an error when the
7 - %program is run although these values are not physically possible
```

```
>> HW2P2
How many siblings do you have? 3
Thank you for letting me know that you have 3 siblings.
>> HW2P2
How many siblings do you have? -10
Thank you for letting me know that you have -10 siblings.
>> HW2P2
How many siblings do you have? 3.33
Thank you for letting me know that you have 3.33 siblings.
```

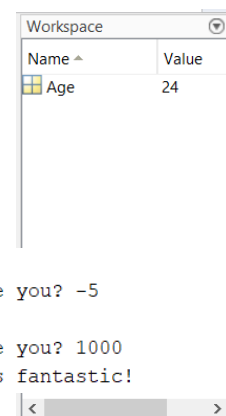


Name ^	Value
SiblingNum	3.3300
String	Thank you f

Problem 3:

```
1 - Age = input('How old are you? ');
2
3 - if (0 < Age) && (Age < 5)
4 -     disp('Oh that''s so cute!')
5 - elseif (5 <= Age) && (Age < 14)
6 -     disp('Oh, how''s school going?')
7 - elseif (14 <= Age) && (Age < 19)
8 -     disp('So, how do you like highschool?')
9 - elseif (19 <= Age) && (Age < 25)
10 -     disp('Are you in college?')
11 - elseif (25 <= Age) && (Age < 55)
12 -     disp('Oh, what do you do for a living?')
13 - elseif (55 <= Age) && (Age < 70)
14 -     disp('Do you have grandchildren?')
15 - elseif (70 <= Age) && (Age < 90)
16 -     disp('Stay healthy and beware the corona virus.')
17 - elseif Age >= 90
18 -     disp('Oh, that is fantastic!')
19 - end
```

```
>> P3
How old are you? 99
Oh, that is fantastic!
>> P3
How old are you? 5
Oh, how's school going?
>> P3
How old are you? 55
Do you have grandchildren?
>> P3
How old are you? 24
Are you in college?
```



Name ^	Value
Age	24

```
>> P3
How old are you? -5
>> P3
How old are you? 1000
Oh, that is fantastic!
```

When a negative number is entered, there is no output. This is because there are no parameters or accompanying outputs that define a negative value. When 1000 is entered, the “Oh, that is fantastic!” is displayed. This is because there was no upper limit set on the last conditional elseif statement.