Punjab University College of Information and Technology
System Programming

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Instructions:

Make a separate folder for each question.
On top of each script, write about what actually script in doing.
Use meaningful variable and function names.
Your code must be indented.

QUESTION 1 (10) *Suggested Time: 20 minutes*

In this task create a new c source file name Question1.c. In this source file:

- Create a 1D array of size 10.
- Populate this array with any dummy data.
- Print the content of array on screen.
- Resize the array to double the actual size.
- Re-populate the array.
- Print the content of array on screen.
- Free the space occupied by array before program termination.

QUESTION 2 (10) S*uggested Time: 20 minutes*

In this task create a new c source file name Question2.c. In this source file:

- Print your current program break address on screen. (hint sbrk())
- Declare 4 pointers(p1,p2,p3,p4) to addresses returned by **malloc()/calloc().** You must change memory block size for every pointer.
- Print your current program break address on screen and notice the change in address value. (Does address value changes ?. Explain your answer to get marks).
- Print each address value stored in above pointers(p1,p2,p3,p4). Notice the change in address value. Explain your answer to get marks).

QUESTION 3 (10) *Suggested Time: 30 minutes*

Write a code as follows:

- Make an integer variable named counter.
- Set a jump and assign its value to counter.
- In case of initial setjump() the call should go to the function named firstSetJump() else function named haveFun() should be called.
- In both functions, value of counter should be printed and then incremented and returned. Note that the function's return type is void.