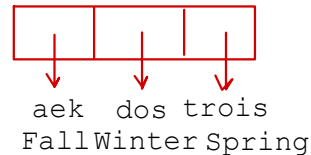


Question 1a. Write 3 statements to declare 3 strings and assign values to them in different ways. Call the first string *aek*, and store it on the stack for main with value "Fall". Declare a second string *dos* as a pointer that points to a literal with value "Winter". The third string named *trois* should be on a heap and should store a value "Spring".

```
char aek[] = "Fall";
char *dos = "Winter";
char *trois = malloc(7);
strcpy(trois, "Spring");
```

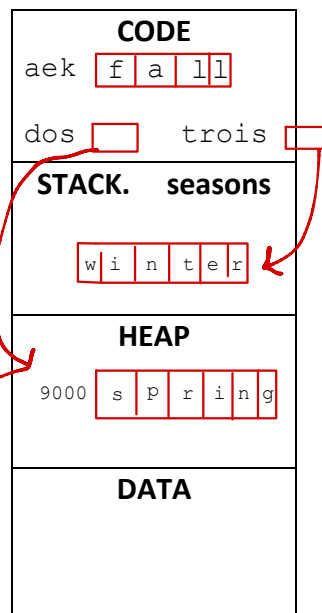
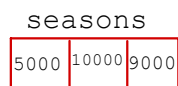
Question 1b. Write a statement that creates an array of Strings called *seasons* that has 3 elements that are pointers to char pointing to *aek*, *dos* and *trois*.

```
char *seasons[3]
season[0]=aek;
season[1]=does;
```



Question 1c. Draw a memory model for the statements written in question 1a and 1b.

```
char *seasons[3]
={aek, dos, trois};
```



Question 2: The following code throws an error. Find and fix the error.

```

3  #include <stdio.h>
4  #include <stdlib.h>
5  #include <string.h>
6
7  int main()
8  {
9      char ch [] = "This is a worksheet5 question";
10     int i = 0;
11
12     while (*ch != '\0') {
13
14         i++;
15         ch++;
16     }
17
18     printf ("i = %d\n", i);
19     return 0;
20 }

```

Stack
ch T h \0

ch is not a modifiable object.

Question 3: Complete the code given below (read lines 13, 14). DO NOT use subscript notation.

```

3  #include <stdio.h>
4  #include <stdlib.h>
5  #include <string.h>
6
7  int main()
8  {
9      int arr [2][3] = { {0, 20, 30}, {10, 50, 80} };
10     int i = 0;
11     int * ptr = &arr[0][0];
12
13     // write a for loop here that uses ptr
14     // to print all the elements of arr

```

```

for(i = 0; i < 6; i++) {
    printf("%d", *ptr);
    ptr++;
}

ptr = &arr[0][0];

for(i = 0; i < 6; i++) {
    *ptr = *ptr + sum;
}

for(i = 0; i < 6; i++) {
    printf("%d", *(ptr + i));
}

```

Question 4 (Optional question): What does the following function do? Take an example and work it through. For example, what does dummy ("abcd", "XYZ"); do?

```

22 void dummy (char * str1, char * str2) {
23
24     while (*str1 != '\0') {
25         ++str1;
26     }
27
28     while (*str2 != '\0') {
29         *str1 = *str2;
30         str1++;
31         str2++;
32     }
33     *str1 = '\0';
34 }

```

