Questions

General array and pointers topic

1. abc is an array of 6 chars containing the values 12, 6, 8, 34, 54, 4

2. abc is a pointer to char initialized to point to a string literal “program”

3. abc is an array of read-only char of unspecified size that initialized to contain the string “program”

4. abc is an array of read-only pointers to chars initialized to pointers to strings “Programming”, “is”, ‘as”, “easy”, “as”, “nothing”

5. abc is a function that takes in 3 arguments, a pointer to short, an unsigned int, a pointer to read-only float

6. Write the print out value

```
int main(){
        char c1[9] = “abc”;
        char c2[] = “defghi”
        strcat(s1, s2);
        printf(“%s\n”, s1);
        return 0;
}
```

```
int main(){
        const char c1[] = “hornorificabiliudinitatibus”;
        char *s2 = “hornorificabiliudinitatibus”;
        int x = strcmp(s1, s2);
        printf(“%d, %d, %d\n”, x>0, x==0, x<0);
        return 0;
}
```

```
int main(){
        const  char * strs[] =  { “programming”, “is a very easy”, “thing to learn”, “in
        computer”, “science”};
        const char** tmp = strs;
        while(tmp!=strs+5)
                printf(“%c”, *(*tmp++ +(tmp-strs)));
        return 0;
}
```

7. Write the value

```
int *p = malloc(8);
int *q = malloc(8);
int i = 0;
p[0] = 1; p[1]=3; q[0]=4; q[1]=7;

*++p=*q++;
```

a. *p

b. *--p

c. p[i++]

d. (--q)[i++]

e. p[(i-1) [q] / 4]

8. Write the implementation of the following function declaration:

```
char find_first_duplicate(const char *);

printf(“prints \”%c\” “, find_first_duplicate(“apple”));  /* prints “p” */
printf(“prints \”%c\” “, find_first_duplicate(“cookie and apple”)); /* prints “o” */
printf(“prints \”%c\” “, find_first_duplicate(“boi”)); /* prints “” */
printf(“prints \”%c\” “, find_first_duplicate(“a”)); /* prints “” */
printf(“prints \”%c\” “, find_first_duplicate(“”));/* prints “” */
printf(“prints \”%c\” “, find_first_duplicate(0)); /* undefined behaviour */
```