Exercises about Computer Science

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1 Exercises

1. On C programming there is a common used structure defined as `(void *) 0`. What is it?

   (a) The NULL pointer.

   (b) The void pointer.

   (c) Error.

   (d) Garbage value stored on RAM.

   (e) Garbage value stored on disk.

2. If a variable is a pointer to a structure, then which of the following operator is used to access data members of the structure through the pointer variable?

   (a) .

   (b) %

   (c) &

   (d) *

   (e) ->

3. What will be the output of the following code?

```
#include<stdio.h>

int main()
{
    char str20 = "Hello";
    char *const p=str;
    *p='M';
    printf("%s\n", str);
    return 0;
}
```

   (a) Hello

(b) Mello

(c) HMello

(d) MHello

(e) Mehllo

4. What will be the output of the following code?

```
#include<stdio.h>

int main()
{
    char *str;
    str = "%s";
    printf(str, "K\n");
    return 0;
}
```

(a) Error.

(b) No output.

(c) K.

(d) %s

(e) `K \n`

5. What will be the output of the program if the size of pointer is 4-bytes?

```
#include<stdio.h>

int main()
{
    printf("%d, %d\n", sizeof(NULL), sizeof(""));
    return 0;
}
```

(a) 2, 1.

(b) 1, 2.

(c) 2, 2.

(d) 4, 1.

(e) 4, 2.

6. What is the output of the following Java code?

```
public class array
{
public static void main(String args)
{
int arr = {1,2,3,4,5};
System.out.println(arr2);
System.out.println(arr4);
}
}
```

(a) 4 and 2.

(b) 2 and 4.

(c) 5 and 3.

(d) 3 and 5.

(e) 4 and 3.

7. What is the time complexity of reversing a word using stack algorithm?

(a) $O(n \log n)$

(b) $O(n^2)$

(c) $O(n)$

(d) $O(\log n)$

(e) $O(n!)$

8. What will be output if the following sequence of operations are executed on a empty stack `s`?

```
Push(a,s);
Push(b,s);
Pop(b);
Push(c,s);
```

(a) abc

(b) b

(c) bc

(d) bca

(e) ab

9. When dealing with an empty stack `s`, what sequence of operations gives the result string `cat`?

(a) `push(c, s); push(a, s); push(t, s); pop(s); pop(s); pop(s);`

(b) `push(c,s); pop(s); push(a,s); pop(s); push(t,s); pop(s);`

(c) `pop(c); pop(a); pop(t);`

(d) `push(c, s); push(a, s); pop(t);`

(e) `push(a); push(a, s); push(t, s); pop(a); pop(s); pop(s);`

2 Answers

1. A
2. E
3. B
4. C
5. D
6. D
7. C
8. B
9. B