

Computer Science & Information Technology

C - Programming

DPP: 1

String and Structure

Q1 Consider the following codes P and Q as:

P : `char* p="GATEWallah";`
`p[5]='A';`
`printf("%s",p);`

Q: `char* p="GATEWallah";`
`char* q = p;`
`q[5]='A';`
`printf("%s",q);`

The number of INCORRECT codes is/are _____.

Q2 P : `char s1[]="GATE";`
`char s2[]="GATE";`
`if(s1==s2) printf("YES");`
`else`
`printf("NO");`

Q: `char s1[]="GATE";`
`char s2[]="GateWallah";`
`if(*s1==*s2) printf("YES");`
`else`
`printf("NO");`

The outputs are-

- (A) P = YES Q = YES
- (B) P = YES Q = NO
- (C) P = NO Q = YES
- (D) P = NO Q = NO

Q3 P : `char s[20];`
`printf("Enter your GATE stream with year: \n");`
`scanf("%s",s);`
`printf("%s",s);`

Q : `char s[20];`
`printf("Enter your GATE stream with year: \n");`
`gets(s);`
`printf("%s",s);`

If the input string is "CS 2023", the outputs are-

- (A) P = CS 2023 Q = CS 2023
- (B) P = CS Q = CS
- (C) P = CS 2023 Q = CS
- (D) P = CS Q = CS 2023

Q4 `#include<stdio.h>`
`#include<string.h>`
`int main()`
`{`
`char s[20]="GATEWallah";`
`printf("%s",s+4);`
`s[4]=0;`
`printf("%s",s);`
`return 0;`
`}`

The output is

- (A) WallahGATE
- (B) EWallahGAT
- (C) WallahGATEOallah
- (D) EWallahGATOallah

Q5 `#include<stdio.h>`
`#include<string.h>`
`int main()`
`{`
`char s[20]="GATEWallah2023";`
`s[10]='0';`
`printf("%s",s+s[3]-s[1]);`
`return 0;`
`}`

The output printed is-

- (A) Wallah0
- (B) Wallah2023
- (C) Wallah0023
- (D) Wallah

Q6 `#include<stdio.h>`
`#include<string.h>`
`void f(char *p)`
`{`
`static int q=2;`
`q=q+3;`
`p[q]+=2;`
`}`
`int main()`
`{`
`char s[20]="GATEWallahbesthai";`



```
int i=0;
for(i=0;i<3;i++)
{
    f(s);
}
printf("%s",s);
return 0;
}
```

The output string printed is

- (A) GATEWcllchbgsthai
- (B) GATEWcllbhbgsthai
- (C) GATEWcllchbesthai
- (D) GATEWcllchbesthai

Q7 #include<stdio.h>
#include<string.h>
void f(char *p)
{
 if(*p!=0)
 {
 printf("%c", *p);
 f(p+1);
 }
 printf("%c", *p);
}

```
int main()
{
    char s[5]="GATE";
    f(s);
    return 0;
}
```

The output is

- (A) GATEGATE
- (B) ETAGGATE
- (C) ETAGETAG
- (D) GATEETAG

Q8 #include<stdio.h>
#include<string.h>
int main()
{
 int a=1;
 char b[]="GATE2024";
 char c[]="GATE2024";
 int d=strcmp(b,c);
 if(d==0)
 a=printf("GATEWallah");
 printf("%d",a);
 return 0;
}

The value of a is _____.



Answer Key

Q1 2~2

Q2 (C)

Q3 (D)

Q4 (A)

Q5 (C)

Q6 (A)

Q7 (D)

Q8 10~10



Hints & Solutions

Q1 Text Solution:

char *p = "GATEWallah";

Memory is allocated to "GATEWallah" in static/read only memory. So, its content cannot be updated

p[5] = 'A'

It is not allowed as 'p' is the only entry point to the string constant.

\ Both P and Q are not valid.

Q2 Text Solution:

P: if (s1 == s2) // It is comparing the base addresses of two different Strings.

→ false

∴ else part will be executed

↓

No is printed

Q:

s1:

G	A	T	E
---	---	---	---

100

s2:

G	A	T	E	W	a	l	l	a	h
---	---	---	---	---	---	---	---	---	---

200

if(*s1 == *s2) ⇒ if(*100 == *200)

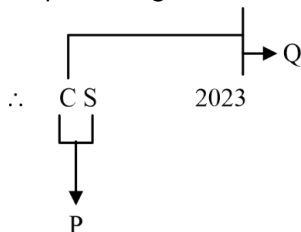
* → value at

G == G

→ TRUE

Q3 Text Solution:

scanf() halts reading as soon as it encounters whitespace. gets() ignores the whitespace and stops reading when new-line is found.



∴ Output of P: CS

Output of Q: CS 2023

Q4 Text Solution:

100	101	102	103	104	105	106	107	108	109	110
G	A	T	E	W	a	l	l	a	h	\0

\0

printf("%s", s + 4); // Wallah

↓

104

s[4] = 0; //*(100 + 4) = 0 where 0 is the ASCII of NULL character.

print("%s", s); // It prints the string till it encounters first NULL;

⇒ Output is: WallahGATE

Q5 Text Solution:

100	101	102	103	104	105	106	107	108	109	110	111	112	113	114
G	A	T	E	W	a	l	l	a	h	\0	0	2	3	\0

0

s[10] = '0'; // Here '0' is the number 0

printf("%s", s + s[3] - s[1]);

↓

100 + 69 - 65 = 104

∴ Output is: Wallah0023

Q6 Text Solution:

S:

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
G	A	T	E	W	a	l	l	a	h	b	e	s	t	h	a	i

starting address of S: 100

i 0

f(100)

p 100

q 25

p[5] += 2; // p[5] = c

i 2

f(100)

p 100

q 8

p[11] += 2; // p[11] = g

Output: G A T E W c l l c h b g s t h a i

Q7 Text Solution:



Android App

iOS App

PW Website

G	A	T	E	\0
---	---	---	---	----

100 101 102 103 104

f(100) *100==G!=0→True (1) printf() executed → G f(101) (8) printf() executed → G	f(101) *101==A!=0→True (2) printf() executed → A f(102) (7) printf() executed → A
f(102) *102==T!=0→True (3) printf()executed → T f(103) (6) printf() executed → T	f(103) *103==E!=0→True (4) printf() executed →E f(104)→NULL is present (5) printf()executed→E

∴ Output is: GATEETAG

Q8 Text Solution:

strcmp(b, c) returns 0 (strings are equal).

printf("GATEWallah") prints "GATEWallah" and returns 10.

a is set to 10 and then printed.



[Android App](#) | [iOS App](#) | [PW Website](#)

