

Tech Mahindra Technical Paper 1

C-Test Paper

1. #include

* What is wrong in the following problem

```
main() {  
int i,j;  
j = 10;  
i = j++ - j++;  
printf("%d %d", i,j);  
}  
ans: 0, 12
```

2.#include

* What is the output of the following problem

```
main() {  
int j;  
for(j=0;j<3;j++)  
foo();  
}  
foo() {  
static int i = 10;  
i+=10;  
printf("%d\n",i);  
}
```

```
/* Out put is (**since static int is used i value is retained between  
* 20 function calls )  
* 30  
* 40  
*  
/
```

3.#include

#include

#include

/* This is asked in PCS Bombay walk-in-interview

* What is wrong in the following code

```
*/  
main()  
{  
char *c;  
c = "Hello";  
printf("%s\n", c);  
}
```

```
/*ans:- Hello, The code is successfully running */
```

```
4. #include
```

```
/* This problem is given in PCS BOMBAY walk-in-interview.
```

```
* What is the final value of i and how many times loop is
```

```
* Executed ?
```

```
*/
```

```
main()
```

```
{
```

```
int i,j,k,l,lc=0;
```

```
/* the input is given as 1234 567 */
```

```
printf("Enter the number string:<1234 567 \n");
```

```
scanf("%2d%d%1d",&i,&j,&k);
```

```
for(;k--,&i++)
```

```
for(l=0;l
```

```
printf("%d %d\n",i,l);}
```

```
printf("LOOPS= %d\n", lc-1);
```

```
}
```

```
/* Ans: i = 16, and loop is executed for 169 times */
```

```
5.#include
```

```
/* This is given in PCS Bombay walk-in-interview */
```

```
/* What is the output of the following program */
```

```
main() {
```

```
union {
```

```
int a;
```

```
int b;
```

```
int c;
```

```
} u,v;
```

```
u.a = 10;
```

```
u.b = 20;
```

```
printf("%d %d \n",u.a,u.b);
```

```
}
```

```
/* Ans : The latest value assigned to any of the union member  
will be present in the union members so answer is
```

```
20 20
```

```
*/
```

```
6.#include
```

```
main()
```

```
{
```

```
float i, j;
```

```
scanf("%f %f", &i, &j);
```

```
printf("%.2f %.3f", i, j);
```

```
}
```

```
/Ans:- 123.34 3. 234 */
```

7.#include

/* This is given in PCS Bombay walk-in-interview

* What is the out put of the following problem ?

*/

main()

{

char *str = "12345";

printf("%c %c %c\n", *str, *(str++), *(str++));

}

/* Ans: It is not 1 2 3

* But it is 3 2 1 Why ??

*/

8.#include

/* This problem is asked in PCS Bombay Walk-in-interview

* Write a macro statement to find maximum of a,b

*/

#define max(a,b) (a>b)?a:b

main()

{

int a,b;

a=3;

b=4;

printf("%d",max(a,b));

}

/* Ans is very simple the coding is just for testing it

and output is 4 */

~

9.#include

/* This problem is asked in PCS Bombay

* What is the output of the following coding

*/

main()

{

int len=4;

char *st="12345678";

st = st -len;

printf("%c\n",*st);

}

/* Ans : It will print some junk value */

~

10.#include

main()

{

func(1);

}

```
func(int i){
static char *str={ "One","Two","Three","Four"};
printf("%s\n",str[i++]);
return;
}
/* Ans:- it will give warning because str is pointer to the char but
it is initialized with more values
if it is not considered then the answer is Two */
```

11.

```
#include
main()
{
int i;
for (i=1;i<100; i++)
printf("%d %0x\n",i,i);
}
/* Ans:- i is from 1 to 99 for the first format,
for the second format 1to9, ato f, 10 to 19,1ato1f, 20 to 29, etc */
```

12.#include

```
/* This problem is asked in PCS Bombay walk-in-interview
* In the following code please write the syntax for
* assing a value of 10 to field x of s and id_no 101 of s
*/
struct {
int x;
int y;
union {
int id_no;
char *name;
}b;
}s,*st;
main()
{
st = &s;
st-x=10;
st-b.id_no = 101;
printf("%d %d\n",s..x,s.b.id_no);
}
/* Ans: The answer is st-x=10;
* st-b.id_no=101;
*/
```

13.#include

```
/* This problem was asked in PCS Bombay in a walk-in-interview
* Write a recursive function that calculates
* n * (n-1) * (n-2) * ..... 2 * 1
*/
```

```

main() {
int factorial(int n);
int i,ans;
printf("\n Enter a Number:");
scanf("%d",&i);
ans = factorial(i);
printf("\nFactorial by recursion = %d\n", ans);
}
int factorial(int n)
{
if (n <= 1) return (1);
else
return ( n * factorial(n-1));
}

```

~

```

14.#include
/* This problem is asked in PCS Bombay walk-in-interview
* What is the output of the following problem
*/
main(){
int j,ans;
j = 4;
ans = count(4);
printf("%d\n",ans);
}
int count(int i)
{
if ( i < 0) return(i);
else
return( count(i-2) + count(i-1));
}

```

/* It is showing -18 as an answer */

```

15.#include
main()
{
int i=4;
if(i=0)
printf("statement 1");
else
printf("statement 2");
}
/* statement 2 */

```

This is pcsb paper.

1. #include

* What is wrong in the following problem

```
main() {
int i,j;
j = 10;
i = j++ - j++;
printf("%d %d", i,j);
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```

ans: 0, 12

2. #include

* What is the output of the following problem

```
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}
foo() {
static int i = 10;
i+=10;
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```

/* Out put is (**since static int is used i value is retained between
* 20 function calls)

* 30

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*

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#include

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```
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/*ans:- Hello, The code is successfully running */

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/* This problem is given in PCS BOMBAY walk-in-interview.

* What is the final value of i and how many times loop is

* Executed ?

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```

```
main()
```

```
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int i,j,k,l,lc=0;
```

```
/* the input is given as 1234 567 */
```

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printf("Enter the number string:<1234 567 \n");
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scanf("%2d%d%1d",&i,&j,&k);
```

```
for(;k--,&i++)
```

```
for(l=0;l
```

```
printf("%d %d\n",i,l);} 
```

```
printf("LOOPS= %d\n", lc-1);
```

```
}
```

```
/* Ans: i = 16, and loop is executed for 169 times */
```

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```
/* This is given in PCS Bombay walk-in-interview */
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```
/* What is the output of the following program */
```

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main() {
```

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union {
```

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int a;
```

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int b;
```

```
int c;
```

```
} u,v;
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u.a = 10;
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printf("%d %d \n",u.a,u.b);
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```
main()
```

```
{
```

```
float i, j;
```

```
scanf("%f %f", &i, &j);
```

```
printf("%.2f %.3f", i, j);
```

```
}
```

```
/Ans:- 123.34 3. 234 */
```

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7.#include
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/* This is given in PCS Bombay walk-in-interview
```

```
* What is the out put of the following problem ?
```

```
*/
```

```

main()
{
char *str = "12345";
printf("%c %c %c\n", *str, *(str++), *(str++));
}
/* Ans: It is not 1 2 3
* But it is 3 2 1 Why ??
*/

```

```

8.#include
/* This problem is asked in PCS Bombay Walk-in-interview
* Write a macro statement to find maximum of a,b
*/
#define max(a,b) (a)>b?a:b
main()
{
int a,b;
a=3;
b=4;
printf("%d",max(a,b));
}
/* Ans is very simple the coding is just for testing it
and output is 4 */

```

~

```

9.#include
/* This problem is asked in PCS Bombay
* What is the output of the following coding
*/

```

```

main()
{
int len=4;
char *st="12345678";
for(i=0; i<6; i++)
st = st -len;
printf("%c\n",*st);
}
/* Ans : It will print some junk value */

```

~

```

10.#include
main()
{
func(1);
}
func(int i){
static char *str={"One","Two","Three","Four"};
printf("%s\n",str[i++]);
return;
}

```



```

}
/* Ans:- it will give warning because str is pointer to the char but
it is initialized with more values
if it is not considered then the answer is Two */

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11.

```

#include
main()
{
int i;
for (i=1;i<100; i++)
printf("%d %0x\n",i,i);
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/* Ans:- i is from 1 to 99 for the first format,
for the second format 1to9, ato f, 10 to 19,1ato1f, 20 to 29, etc */

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12.#include

```

/* This problem is asked in PCS Bombay walk-in-interview
* In the following code please write the syntax for
* assing a value of 10 to field x of s and id_no 101 of s
*/
struct {
int x;
int y;
union {
int id_no;
char *name;
}b;
}s,*st;
main()
{
st = &s;
st->x=10;
st->b.id_no = 101;
printf("%d %d\n",s.x,s.b.id_no);
}
/* Ans: The answer is st->x=10;
* st->b.id_no=101;
*/

```

13.#include

```

/* This problem was asked in PCS Bombay in a walk-in-interview
* Write a recursive function that calculates
* n * (n-1) * (n-2) * ..... 2 * 1
*/

```

```

main() {
int factorial(int n);
int i,ans;

```

```

printf("\n Enter a Number:");
scanf("%d",&i);
ans = factorial(i);
printf("\nFactorial by recursion = %d\n", ans);
}
int factorial(int n)
{
if (n <= 1) return (1);
else
return ( n * factorial(n-1));
}

```

~

```

14.#include
/* This problem is asked in PCS Bombay walk-in-interview
* What is the output of the following problem
*/
main(){
int j,ans;
j = 4;
ans = count(4);
printf("%d\n",ans);
}
int count(int i)
{
if ( i < 0) return(i);
else
return( count(i-2) + count(i-1));
}

```

/* It is showing -18 as an answer */

```

15.#include
main()
{
int i=4;
if(i=0)
printf("statement 1");
else
printf("statement 2");
}
/* statement 2 */

```