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;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) (ab)?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
*/

```c
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.

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* What is the output of the following coding
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```c
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 */
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10.#include
```c
main()
{
func(1);
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func(int i){
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int count(int i)
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