Preliminary Round

Q1 What will be the output of the following :

```
 #include<stdio.h>
#include<stdlib.h>
int main()
{
char s[] = "Opendays2012";
int i = 0;
while(*(s++))
i++;
printf("%d",i);
return 0;
}
```

(a) Segmentation Fault
(b) Compile Error

(c) 12
(d) 10

Q2

```
#include<stdio.h>
int a = 10;
int main()
{
fun();
fun();
return 0;
}
int fun()
{
static int a = 1;
printf("%d ",a);
a++;
return 0;
}
```

(a) 1 2
(b) 1 1
(c) 10 11
(d) 10 10

Q3 :

```
#include<stdio.h>
int main()
{
int a[10][20][30] = {0};
a[5][2][1] = 2;

return 0;
}
```

(a) printf("%d",*(((a+5)+2)+1));
(b) printf("%d",***((a+5)+2)+1);
(c) printf("%d",*(*(*(a+5)+2)+1));
(d) None of these

Q4 what is the output of the following ?

```
#include<stdio.h>
#define x 4+1
int main()
{
int i;
i = x*x*x;
printf("%d",i);
return 0;
}
```

(a) 125
(b) 13
(c) 17
(d) None of above

Q5 what is the following fucntion calculating :

```
int misc(int a,int b)
{
if(b==0)
return a;
if(a<b)
{
a=a+b;
b=a-b;
a=a-b;
}
else
return misc(b,a%b);
}
```

Question 6 :

$5^{(\log_{10}(x))}=50-x^{(\log_{10}5)}$.
What is the value of x?

(a) 1
(b) 10
(c)100
(d) 1000

Question 7 :Write the condition so that the below code outputs “Hello World”.

```
#include<stdio.h>
int main()
{
if(<condition>)
{
printf("Hello ");
}
else
{
printf("World\n");
}
return 0;
}
```

Question 8 : A tree of n nodes has exactly one egde between any 2 vertices,and there are no cycles at all, how many total number of edges are there?

Question 9 : If you are given 8 coins each weights 10grams except one and you are given a weight scale. What is the minimum number of weights that are required?

Question 10
To check if the paranthesis in an expression are balanced, what is the ideal data structure to be used?