Software Testing Lab (ITD06)

Internal Lab Assessment

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IT-2
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Practical : A software takes 3 inputs between 10 to 30 and outputs average of three numbers. Perform boundary value analysis

Code:

```
#include<iostream>
#include<vector>

int avg(const int & x,const int & y,const int & z)
{
	return (x+y+z)/3;
}

int main()
{
	int la, ua;
	std::cout<<"Enter valid range of A:";
	std::cin>>la>>ua;

	int lb, ub;
	std::cout<<"Enter valid range of B:";
	std::cin>>lb>>ub;

	int lc, uc;
	std::cout<<"Enter valid range of C:";
	std::cin>>lc>>uc;

	int nt = 4*3+1;
	std::cout<<"Total number of test cases:"<<nt<<std::endl;


	int lap = la+1;
	int uam = ua-1;
	int noma = (la+ua)/2;
	int lbp = lb+1;
	int ubm = ub-1;
	int nomb = (lb+ub)/2;
	int lcp = lc+1;
	int ucm = uc-1;
	int nomc = (lc+uc)/2;

	std::vector<int> va{la,lap,noma,uam,ua};
	std::vector<int> vb{lb,lbp,nomb,ubm,ub};
	std::vector<int> vc{lc,lcp,nomc,ucm,uc};

	std::cout<<"A    B    C    Expected Ouput"<<std::endl;
	int j=0;
	int count = 0;
	for(int i=0;i<15;i++)
	{
		if(j==0)
		{
			std::cout<<va[count]<<"   "<<nomb<<"   "<<nomc<<"
"<<avg(va[count],nomb,nomc)<<std::endl;
			count++;

			if(count==5)
			{
				j+=1;
				count = 0;
```

```
                }
        }

        else if(j==1)
        {
                if(count!=2)
                std::cout<<noma<<"   "<<vb[count]<<"   "<<nomc<<"
"<<avg(noma,vb[count],nomc)<<std::endl;
                count++;

                if(count==5)
                {
                        j+=1;
                        count = 0;
                }
        }

        else
        {
                if(count!=2)
                std::cout<<noma<<"   "<<nomb<<"   "<<vb[count]<<"
"<<avg(noma,nomb,vb[count])<<std::endl;
                count++;

                if(count==5)
                {
                        j+=1;
                        count = 0;
                }
        }
    }
}
```

```
(base) Shivs-MacBook-Air:Software Testing championballer$ g++ -std=c++14 internal.cpp -o run
(base) Shivs-MacBook-Air:Software Testing championballer$ ./run
Enter valid range of A:10 30
Enter valid range of B:10 30
Enter valid range of C:10 30
Total number of test cases:13
A    B    C    Expected Ouput
10   20   20   16
11   20   20   17
20   20   20   20
29   20   20   23
30   20   20   23
20   10   20   16
20   11   20   17
20   29   20   23
20   30   20   23
20   20   10   16
20   20   11   17
20   20   29   23
20   20   30   23
```