

Home Work 3: Recursion Related Home Work

Dry run these codes and see what will be the output. If you find some errors clearly mention those errors.

1)

```
int Mystery(int k, int n)
{
    if (n == 0)
        return 1;
    else {
        int t = Mystery(k, n / 2);
        if ((n % 2) == 0)
            return t * t;
        else
            return k * t * t;
    }
}
int main()
{
    cout << Mystery(5,3);
    return 0;
}
```

2)

```
int Check(int n){
    if (n<=0)
        return 1;
    else
        return n + Check(n / 10);
}
int main(){
    cout<<Check(222);
    return 0;
}
```

3)

```
bool operate(char ch, char *a)
{
    if (*a == '\0')
        return false;
    else if (*a == ch)
        return true;
    else {
        a++;
        return operate(ch, a);
    }
}

int main(){
    char carray[10] = {'M','a','t','h','e','m','a','t','i','\0' };
    cout << operate('i', carray);
    return 0;
}
```

4)

```
int fun1(int x, int y){
    if(x == 0)
        return y;
    else
        return fun1(x - 1, x + y);
}

int main(){
    cout << fun1(5, 5);
    return 0;
}
```

5)

```
int fun1(int x, int y){
    if(x == 0)
        return y;
    else
        return fun1(x - 1, x + y);
}

int main(){
    cout << fun1(5, 5);
    return 0;
}
```