

# Python Side of things

1. Aruco detection
2. Goal assigning
3. XBee Interfacing with python
4. Shortest distance
5. Goal orientation and angle calculation
6. Error
7. Collision avoidance
8. Shape draw

## 1.1 Parsing the String

Listing 1.1: String Parsing Function

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```
void update_values()
{
    char parts[10][5];
    char data_string1[40];
    strcpy((char*)data_string1, (const char*)data_string);

    char *p_start, *p_end;
    unsigned char i=0;
    p_start = data_string1;

    while(1)
    {
        p_end = strchr(p_start, '/');
        if (p_end)
```



## 1.1. PARSING THE STRING

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```
{
    strncpy(parts[i], p_start, p_end-p_start);
    parts[i][p_end-p_start] = 0;
    i++;
    p_start = p_end + 1;
}
else
break;
}

x_current = atoi(parts[1]);
y_current = atoi(parts[2]);
theta_current = abs(atoi(parts[3])-360+180-360);
                //(0)-(360)
x_req = atoi(parts[4]);
y_req = atoi(parts[5]);
theta_req = abs(atoi(parts[6])-180-360); //(0)-(360)
trigger = atoi(parts[7]);
trigger_angle = atoi(parts[8]);
}
```

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The string is received in the form

<#id/x\_current/y\_current/theta\_current/x\_required/y\_required/theta\_required/  
trigger/trigger\_angle#>

This is then parsed to obtain the values in int data type.