```
clear;
clc;
%COM12 - Matlab
% COM13 - Python
% Python Serial Port
device = serialport("COM12",9600,"Timeout",5);pause(0.5);
% Arduino Serial Port
arduino = serialport("COM5",9600,"Timeout",5);pause(0.5);

% address where the functions is located
addpath(genpath('./src'))%functions folders
% address where the data is located
path = fullfile('D:/GoogleDrive/F_BLOG/GITHUB/BCI_Motor_Imagery_Task_OpenBCI/PyhtonCode/BCI_AWA
% Load Best Classification Model
load('trainedModel_IRPF_IDesc_EnsembleSubspaceKNN_78.mat');
modeli=trainedModel_IRPF_IDesc_EnsembleSubspaceKNN_78;
%load('trainedModel_MLPF_MDesc_EnsembleSubspaceKNN_77.mat');
%modelm=trainedModel_MLPF_MDesc_EnsembleSubspaceKNN_77;
%load('trainedModel_MLCH_MDesc_MediumGaussianSVM_78.mat')
%modelm=trainedModel_MLCH_MDesc_MediumGaussianSVM_78;
disp('Start Acquisition')
```

```
Start Acquisition
```

```
while true
    %data = read(device,16,"uint32");
    if device.NumBytesAvailable>0
        data=read(device,1,"char");
        if data=="B"
            %Load Data, normalization and feature extration
            features = fReadEEG_featuresRms(path,'DATO');
            % Use classification model
            taski=modeli.predictFcn(features)% 7-IRPF, 8-IDesc
                if taski==7
                    write(arduino,'S',"char")
                    disp("i) IRPF")
                else
                    write(arduino,'V',"char")
                    disp("i) IDesc")
                end
             %taskm=modeli.predictFcn(features)% 10-MLCH, 16-IDesc
                %if taskm==13 disp("m) MLPF")
                %else disp("m) IDesc")
                %end
            write(device,'A',"char")
        elseif data=="Z"
            disp("While End")
            break;
        end
    end
    pause(0.01);
end
```

```
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 7
i) IRPF
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
```

```
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 8
i) IDesc
```

```
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 8
i) IDesc
taski = 7
i) IRPF
taski = 8
i) IDesc
taski = 7
i) IRPF
```

```
flush(device)
clear device
flush(arduino)
clear arduino
```