

ASSEMBLY LANGUAGE PROJECT CODES & OUTPUTS

Assembly Language

```
;MICROWAVE
```

```
%macro DisplayText 2
```

```
mov eax, 4
```

```
mov ebx, 1
```

```
mov ecx, %1
```

```
mov edx, %2
```

```
int 0x80
```

```
%endmacro
```

```
%macro TakeInput 2
```

```
mov eax, 3
```

```
mov ebx, 2
```

```
mov ecx, %1
```

```
mov edx, %2
```

```
int 0x80
```

```
%endmacro
```

```
section .data
```

```
outMsg db "-----NASCO MICROWAVE-----",0xa,0xd
```

```
outMsgLen equ $-outMsg
```

```
onMsg db "1.Turn On Microwave",0xa,0xd
```

```
onMsgLen equ $-onMsg
```

```
offMsg db "2.Hibernate",0xa,0xd
```

```
offMsgLen equ $-offMsg
```

```
on_Msg db "Microwave is turned On",0xa,0xd
```

```
on_MsgLen equ $-on_Msg
```

```
off_Msg db "Microwave is Hibernated",0xa,0xd
```

```
off_MsgLen equ $-off_Msg
```

```
option db "Select Option of your Choice",0xa,0xd
```

```
optionLen equ $-option
```

```
cookMsg db "3.Cooking MODE",0xa,0xd
```

```
cookMsgLen equ $-cookMsg
```

```
cook_Msg db "Microwave is in Cooking mode",0xa,0xd
```

```
cook_MsgLen equ $-cook_Msg
```

```
reheatMsg db "4.Heating MODE",0xa,0xd
```

```
reheatMsgLen equ $-reheatMsg
```

```
reheat_Msg db "Microwave is in Heating mode",0xa,0xd
```

```
reheat_MsgLen equ $-reheat_Msg
```

```
minute db "Enter the time in minutes",0xa,0xd
```

```
minutelen equ $-minute
```

```
second dq "Enter the time in seconds",0xa,0xd
```

```
secondlen equ $-second
```

```
invalidInput db "You have entered an invalid response",0xa,0xd
```

```
invalidInputLen equ $-invalidInput
```

```
;setting constant
```

```
opt1 equ '1'
```

```
opt2 equ '2'
```

```
opt3 equ '3'
```

```
opt4 equ '4'
```

```
section .bss
```

```
num resb 4
```

```
num1 resb 4
```

```
min resb 4
```

```
sec resb 4
```

```
section .text
```

```
global _start
```

_start:

;Display output for option

DisplayText onMsg, onMsgLen

DisplayText offMsg, offMsgLen

;Read input

TakeInput num, 4

mov dl,[num]

cmp dl,opt1

JE n01

cmp dl,opt2

JE n02

JMP exit

n01:

DisplayText outMsg, outMsgLen

DisplayText on_Msg, on_MsgLen

DisplayText option, optionLen

DisplayText cookMsg, cookMsgLen

DisplayText reheatMsg, reheatMsgLen

;Read another input

TakeInput num1, 4

mov dl,[num1]

cmp dl,opt3

JE n03

cmp dl,opt4

JE n04

JMP exit

time:

;Text requesting input to operate microwave(minute)

DisplayText minute, minutelen

TakeInput min, 4

;Text requesting time in secocnds to operate the microwave

DisplayText second, secondlen

TakeInput sec, 4

ret

n03:

call time

DisplayText cook_Msg, cook_MsgLen

mov eax,1

int 0x80

n04:

call time

DisplayText reheat_Msg, reheat_MsgLen

mov eax,1

int 0x80

n02:

DisplayText off_Msg, off_MsgLen

```
mov eax,1
```

```
int 0x80
```

```
exit:
```

```
DisplayText invalidInput, invalidInputLen
```

```
mov eax, 1
```

```
int 0x80
```

```
1.Turn On Microwave
2.Hibernate
1
-----NASC0 MICROWAVE-----
Microwave is turned On
Select Option of your Choice
3.Cooking MODE
4.Heating MODE
3
Enter the time in minutes
10
Enter the time in seconds
30
Microwave is in Cooking mode
```

Python

```
print("1. Turn on Microwave.")
```

```
print("2. Hibernate")
```

```
firstInput = input("Select Option of your choice: ")
```

```
if firstInput == '1':
```

```
    print("-----NASCO MICROWAVE-----")
```

```
    print("The microwave has been turned on")
```

```
    print("Which Mode do you want to use?")
```

```
    print("1.Cooking Mode")
```

```
    print("2.Heating Mode")
```

```
secondInput = input("Select Option of your choice: ")
```

```
minutes = input("Enter the time in minutes: ")
```

```
seconds = input("Enter the time in seconds: ")
```

```
time = minutes+ " minutes" + " " + seconds+ " seconds"
```

```
if secondInput == '1':
```

```
    print("The microwave will cook for " + time)
```

```
elif secondInput == '2':
```

```
    print("The microwave will heat for " + time)
```

```
else:
```



```
        print("You have entered an invalid response. Enter [1] or [2].")
elif firstInput == '2':
    print("The microwave has been turned off.")
else:
    print("You have entered an incorrect response. Enter [1] or [2].")
```

```
1. Turn on Microwave.
2. Hibernate
Select Option of your choice: 1
-----NASC0 MICROWAVE-----
The microwave has been turned on
Which Mode do you want to use?
1.Cooking Mode
2.Heating Mode
Select Option of your choice: 1
Enter the time in minutes: 10
Enter the time in seconds: 30
The microwave will cook for 10 minutes 30 seconds
```

C++

```
#include <iostream>
```

```
using namespace std;
```

```
int main(){
```

```
    int firstInput;
```

```
    int secondInput;
```

```
    string minutes, seconds;
```

```
    cout<<"-----NASCO MICROWAVE-----\n";
```

```
    cout<<"[1] Turn on Microwave.\n";
```

```
    cout<<"[2] Hibernate.\n";
```

```
    cout<<"Select your option: \n";
```

```
    cin>>firstInput;
```

```
    if(firstInput==1){
```

```
        cout<<"The microwave has been turned on.\n";
```

```
        cout<<"-----"<<"\n";
```

```
        cout<<"Which Mode do you want to use?\n";
```

```
        cout<<"[1] Cooking Mode\n";
```

```
        cout<<"[2] Warming Mode\n";
```

```
        cin>>secondInput;
```

```
        if(secondInput==1){
```

```
            cout<<"Enter the time in minutes: ";
```

```
            cin>>minutes;
```

```
            cout<<"Enter the time in seconds: ";
```

```

        cin>>seconds;

        cout<<"The microwave will cook for "<<minutes<<" mins "
<<seconds<<" secs.\n";
    }

    else if(secondInput==2){
        cout<<"Enter the time in minutes: ";
        cin>>minutes;

        cout<<"Enter the time in seconds: ";
        cin>>seconds;

        cout<<"The microwave will warm for "<<minutes<<" mins
"<<seconds<<" secs.\n";
    }

    else{
        cout<<"You have entered an invalid response. Enter [1] or [2].\n";
    }
}

else if(firstInput==2){
    cout<<"The microwave has been hibernated.\n";
}

else{
    cout<<"Your have entered an incorrect response. Enter [1] or [2].\n";
}

return 0;
}

```

```
[1] Turn on Microwave.  
[2] Hibernate.  
Select your option:  
1  
The microwave has been turned on.  
-----NASCO MICROWAVE-----  
Which Mode do you want to use?  
[1] Cooking Mode  
[2] Warming Mode  
1  
Enter the time in minutes: 10  
Enter the time in seconds: 30  
The microwave will cook for 10 mins 30 secs.  
[hotmint C++]# █
```

JAVA

```
package com.company.hello;  
  
import java.util.Scanner;  
  
public class Main {  
  
    public static void main(String[] args) {  
  
        Scanner collInput= new Scanner(System.in);  
  
        String optionSelect = "Select your preferred option";  
  
        System.out.println("1. Turn on microwave");  
  
    }  
}
```

```
System.out.println("2. Turn off Microwave");
System.out.println(optionSelect);
int firstInput;
int secondInput;
int minute;int second;
String time;
firstInput = collInput.nextInt();
if (firstInput == 1) {
System.out.println("-----NASCO MICROWAVE-----");
System.out.println("The microwave has been turned on");
System.out.println("Which mode do you want the microwave to operate in?");
System.out.println("1.Cooking Mode");
System.out.println("2.Heating Mode");
System.out.println(optionSelect);
secondInput = collInput.nextInt();
if (secondInput == 1 || secondInput == 2) {
System.out.println("Enter the time in minutes");
minute = collInput.nextInt();
System.out.println("Enter the time in seconds");
second = collInput.nextInt();
time = minute + " minutes " + second + " seconds";
if (secondInput == 1) {
System.out.println("The microwave will cook for " + time);
}
}
```

```
else {  
    System.out.println("The microwave will heat for " + time);  
}  
  
}  
  
else {  
    System.out.println("You have entered an invalid response");  
}  
  
}  
  
else if (firstInput == 2) {  
    System.out.println("The microwave has been turned off");  
}  
  
else {  
    System.out.println("You have entered an invalid response so the microwave will  
be  
turned off");  
}
```

```
"C:\Program Files\Java\jdk-15.0.2\bin\java.exe" -javaagent:C:\Users\LENOVO\AppData
```

```
-----NASCO MICROWAVE-----
```

```
1. Turn on microwave
```

```
2. Turn off Microwave
```

```
Select your preferred option
```

```
1
```

```
The microwave has been turned on
```

```
-----
```

```
Which mode do you want the microwave to operate in?
```

```
1.Cooking Mode
```

```
2.Heating Mode
```

```
Select your preferred option
```

```
2
```

```
Enter the time in minutes
```

```
12
```

```
Enter the time in seconds
```

```
00
```

```
The microwave will heat for 12 minutes 0 seconds
```

```
Process finished with exit code 0
```

```
|
```