```
 1 . *For 5% percent significance we have
       name:  <unnamed>
        log:  C:\Users\IISERB.DESKTOP-4R0R3GQ\Downloads\Eco Practical.smcl
   log type:  smcl
  opened on:  16 Nov 2022, 07:10:47

 2 . *Aayushman

 3 . *20004

 4 . use "C:\Users\IISERB.DESKTOP-4R0R3GQ\Downloads\bwght (2).dta"

 5 .
 6 . br

 7 .
 8 .
 9 .
10 . * Task 1

11 .
12 . gen m_smoke = 0

13 .
14 . replace m_smoke=1 if cigs > 0
(212 real changes made)

15 .
16 . regress bwght motheduc m_smoke
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| Model | 14949.7338 | 2 | 7474.86691 | Number of obs | = 1,387 |
| Residual | 559525.007 | 1,384 | 404.281075 | F(2, 1384) | = 18.49 |
| | | | | Prob > F | = 0.0000 |
| | | | | R-squared | = 0.0260 |
| | | | | Adj R-squared | = 0.0246 |
| Total | 574474.741 | 1,386 | 414.48394 | Root MSE | = 20.107 |

| bwght | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| motheduc | .2940184 | .2336258 | 1.26 | 0.208 | -.1642806 | .7523173 |
| m_smoke | -8.47526 | 1.542529 | -5.49 | 0.000 | -11.50121 | -5.449313 |
| _cons | 116.2001 | 3.132314 | 37.10 | 0.000 | 110.0555 | 122.3447 |

```
17 .
18 .
19 .
20 . * The situation can be depicted graphically as an intercept shift between

21 .
22 . *smoker(mother) and non-smoker(mother).

23 .
24 .
```

```
25 .
26 . * Task 2

27 .
28 . *a

29 .
30 . reg bwght motheduc cigs if parity == 1
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| Model | 2361.10275 | 2 | 1180.55137 | Number of obs | = 794 |
| Residual | 322860.031 | 791 | 408.166916 | F(2, 791) | = 2.89 |
| | | | | Prob > F | = 0.0560 |
| Total | 325221.134 | 793 | 410.114922 | R-squared | = 0.0073 |
| | | | | Adj R-squared | = 0.0047 |
| | | | | Root MSE | = 20.203 |

| bwght | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| motheduc | .2574561 | .3212193 | 0.80 | 0.423 | -.373087 | .8879992 |
| cigs | -.2888696 | .1392362 | -2.07 | 0.038 | -.5621858 | -.0155534 |
| _cons | 114.7459 | 4.312431 | 26.61 | 0.000 | 106.2808 | 123.2111 |

```
31 .
32 . *b

33 .
34 . reg bwght motheduc cigs if parity == 2
```

| Source | SS | df | MS | | |
|---|---|---|---|---|---|
| Model | 12679.5013 | 2 | 6339.75064 | Number of obs | = 389 |
| Residual | 144862.699 | 386 | 375.291967 | F(2, 386) | = 16.89 |
| | | | | Prob > F | = 0.0000 |
| Total | 157542.201 | 388 | 406.036599 | R-squared | = 0.0805 |
| | | | | Adj R-squared | = 0.0757 |
| | | | | Root MSE | = 19.372 |

| bwght | Coef. | Std. Err. | t | P>\|t\| | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| motheduc | .4021145 | .4176327 | 0.96 | 0.336 | -.4190051 | 1.223234 |
| cigs | -.8136798 | .1532984 | -5.31 | 0.000 | -1.115084 | -.5122754 |
| _cons | 116.7543 | 5.628306 | 20.74 | 0.000 | 105.6883 | 127.8203 |

```
35 .
36 .
37 .
38 . *Using simple F-test we can find the significance of the regression and

39 .
40 . *if both the regression are significant then we can compare in intercept

41 .
42 . *and slope of both regression.
```

```
43 .
44 .
45 .
46 .
47 .
48 . *For 5% percent significance we have

49 .
50 .
51 .
52 . *a) F(2, 791) = 2.89, (Prob > F)  = 0.0560 and 0.0560 > 0.05 so we reject the

53 .
54 . *null hypothesis that this model is significant

55 .
56 .
57 .
58 . *b) F(2, 386) = 16.89, (Prob > F) = 0.0000 and 0 < 0.05 so we accept the null

59 .
60 . * hypothesis that this model is significant

61 . log close
       name:  <unnamed>
        log:  C:\Users\IISERB.DESKTOP-4R0R3GQ\Downloads\Eco Practical.smcl
   log type:  smcl
  closed on:  16 Nov 2022, 07:11:17
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