ICEACE Reference Manual

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April 4, 2013

Contents

1 ICEACE FLAME Implementation

1.1 firm

Table 1: **List of memory variables for firm agent.**

Name	Description
int id	Agent ID.
int bank_id	Bank ID at which the agent maintains its payment account.
int day_of_month_to_act	The day of the month to act
int_array employees	Holds employee ids
double wage_offer	Monthly wage offer.
int no_employees	Number of employees
int vacancies	Number of vacancies
int employees_needed	Number of workers a firm needs for next production

Table 2: **List of functions for firm agent.**

Name	Description
firm_notifier	Notifies its id by printf.
firm_consumption_dummy	A dummy stub function.
idle	Labour market is not active.
firm_labour_workforce_needed	The firm computes required number of employees needed for incoming month.
idle	Firm does nothing
firm_labour_fire	The firm decides to fire if employee needed is below number of employees it does have.
firm_labour_job_announcement_stage1	The agent posts available positions.
firm_labour_job_offer_stage1	The agent takes job matches done by jpoffice.
firm_labour_update	The agent updates labour status. In case of resignments.
firm_labour_job_announcement_stage2	The agent posts unfilled positions.
idle	The agent has no vacant positions
firm_labour_job_offer_stage2	The agent completes the job placement.

1.2 household

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Table 3: **List of memory variables for household agent.**

Name	Description
int id	Agent ID.
int bank_id	Bank ID at which the agent maintains its payment account.
int my_employer_id	Employer ID of an household. A 0 means unemployed.
double wage	Current wage earned.
int day_of_month_to_act	The day of the month to act for seeking a job.
int day_of_month_wage_recieved	The day of the month to wage recieved.
int previous_wages	Holds wages earned in three previous months.

Table 4: **List of functions for household agent.**

Name	Description
household_notifier	Notifies its id by printf.
household_consumption_dummy	A dummy stub function.
idle	Job searching is not active.
household_labour_check_fired	Household checks layout status.
household_labour_reemployment_application	Stage 01 of job applications. Already employed households apply with a turnover probability
idle	Stage 01 of job applications. Unemployed households skip this stage
household_labour_turnover	A job turnover.
household_labour_employment_application	Stage 02 of job market. Unemployed households apply.
household_labour_employment	A new employment.
idle	Does nothing at the point when it is not last day of the month.
household_labour_recieve_wage	Recieves payment and update wage history.

1.3 jpoffice

Table 5: **List of memory variables for jpoffice agent.**

Name	Description
int id	Agent ID.

Table 5 – continued from previous page

Name	Description
int day_of_month_to_act	The day of mont to perform job matching.

Table 6: **List of functions for jpoffice agent.**

Name	Description
jpoffice_notifier	Notifies its id by printf.
idle	Job matching is not active.
jpoffice_labour_stage1	Collecting vacancies and job applications. Vacancies and turnover applications are matched.
jpoffice_labour_stage2	Second stage job matching.

1.4 bank

Table 7: **List of memory variables for bank agent.**

Name	Description
int id	Agent ID.

Table 8: **List of functions for bank agent.**

Name	Description
bank_notifier	Notifies its id by printf.
bank_consumption_dummy	A dummy stub function.
bank_labour_dummy	A dummy stub function.

1.5 government

Table 9: **List of memory variables for government agent.**

Name	Description
int id	Agent ID.

Table 10: **List of functions for government agent.**

Name	Description
government_notifier	Notifies its id by printf.
government_consumption_dummy	A dummy stub function.
government_labour_dummy	A dummy stub function.

1.6 centralbank

Table 11: **List of memory variables for centralbank agent.**

Name	Description
int id	Agent ID.

Table 12: **List of functions for centralbank agent.**

Name	Description
centralbank_notifier	Notifies its id by printf.
centralbank_consumption_dummy	A dummy stub function.
centralbank_labour_dummy	A dummy stub function.

1.7 Messages

See Table 13.

Table 13: **List of messages.**

Name	Description
fired	Sent by a firm to notify an employee who is fired.
int employee_id	Employee ID who has been fired.
vacancy_stage1	Sent by a Firm to post a vacancy.
int employer_id	Firm agent ID who posts a new position.
double wage	Amount of salary to be offered.
job_application_stage2	Sent by an household to apply a posted vacancy.
int employee_id	Household agent ID who seeks employment.
job_application_stage1	Sent by an household to notifie jpoffice
int employee_id	Household agent ID who applies for a new job.
double wage	Current amount of wage earned by the applicant.

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Table 13 – continued from previous page

Name	Description
job_match_stage1	Sent by a firm informing a filled position.
int employer_id	Firm agent ID that has filled a post.
int employee_id	Household agent ID who has been offered a position.
double wage	Amount of salary that is offered.
job_change	Sent by a worker to notify a resigned position.
int employer_id	Firm agent ID of the position held.
int employee_id	Household aent ID who is changing the job.
vacancy_stage2	Sent by a Firm to post unfilled vacancy.
int employer_id	Firm agent ID who posts unfilled position.
double wage	Amount of salary to be offered.
job_match_stage2	Sent by a firm informing a filled position.
int employer_id	Firm agent ID that has filled a post.
int employee_id	Household agent ID who has been offered a position.
double wage	Amount of salary that is offered.

1.8 Constants

Table 14: **List of constants.**

Name	Description
double beta	A threshold value denoting expenditure on housing, as a proportion of total income

1.9 Datatypes

Table 15: **List of attributes for ADTs.**

Name	Description
vacancy	Firm vacancy information.
int id	Id of the firm agent.
double wage	Wage offered by the firm that holds the vacancy.
employee	Job applicant data.
int id	Id of the household agent.
double wage	Current wage of the job applicant.