Marking Scheme

Final Exam

Semester 2 2021-2022

Q1 a. 1.5đ

- If using high-order function instead of loop statement 0.25

- If throw exception from visitAttr instead of visitClassDecl 0.25

- Throw exception correctly 1đ (for each mistake -0.25)

b. 0.5 If processing correctly 0.5 (for each mistake 1 lỗi -0.25)

Q2 2 đ

- Must have enterLoop() and exitLoop() before and after getContinueLabel() và getBreakLabel() 0.25

- Must have and be at correct position of getContinueLabel() 0.25

- Must have and be at correct position of getBreakLabel() 0.25

- Must have pop after init and modi 0.25

- Generate correctly code of expression (return both code and type) 0.25 (if 1 expression wrong -> 0)

- Generate correctly code of stmt (using loop and no printout) 0.25

- Generate code of exp and stmt at correct positions 0.25

- Generate code correctly for labels and jumps 0.25

For other mistake -0.25

Q3. a. Infer and explain correctly for each parameter and return type of function foo (1) if there is no explanation but correct result -0.25

b. 1đ For each mistake in (no function, no global declaration, wrong list, not print arr[1], not increase arr[1], not print or wwrong result of arr[1]-arr[4]) -0.25

Q4. Draw or write wrong AST (wrong from root -1, wrong from children of root -0.5, wrong from lower level in AST -0.25)

Infix form: if there is more or less () -0.25 for each () extra or miss. If draw AST wrong, marking based on the wrong AST.

Q5. a. 1 điểm Giải thích đúng khái niệm 0.25, viết cú pháp có đủ 4 thành phần 0.25 giải thích đúng các thành phần 0.25, ví dụ có ném và bắt 0.25

b. 1đ: có đệ quy 0.25, có kiểm tra đúng điều kiện để ném biến cố 0.25, có bắt biến cố 0.25, có tính đúng yêu cầu 0.25.